The OIL and GAS JOURNAL
PRODUCING REFINING MARKETING

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Crude Oil Situation Shows Improvement

Average daily production in United States week ending Nov. 17, 2,260,028 bbls.

Despite Large Increase in Output Past Week, Developments Indicate Period of Flush Output About Over

Gain in daily production in United States week ending Nov. 17, 61,478 bbls.

By Andrew M. Rowley

Numerous developments, regarded as of the utmost significance in the crude petroleum production situation of the entire United States, which characterized the past week, caused the large increase in the output of crude in the various producing centers to be viewed rather optimistically by operators in close touch with the general situation. Production in all fields of the country showed a gain of 61,478 barrels daily as compared to the output of the previous week, the increase being made chiefly by the Powell Field in Texas, with smaller gains being registered by Oklahoma, North Texas, Arkansas and Wyoming.

Since California reached the peak of its production last July, the chief factor in the overproduction situation has centered in the Powell Field. Hence, it is the situation at Powell at the present time which engages the greatest attention and which is of the most importance in considering the conditions affecting production throughout the whole country. And there can be no doubt but that developments and events of the past week are such as to cause operators to believe the great menace of Powell is a thing of the past and that the production situation at the present time is rapidly rounding into good shape despite the large increase in output during the past week.

Price Raised and Production Declines

Considerable significance is attached to the action of the Magnolia Petroleum Company and The Texas Company on last Monday in increasing the price of Powell crude to $1 a barrel from their former quotations of 75 cents. The Humble Oil & Refining Company has been running a large part of the production at Powell but it has been producing this oil, hence its runs have represented its own output in the field. The fact the Magnolia raised the price and that The Texas Company, which has been running its own production, has raised the posted price, indicates these companies are in the market for more Powell crude. Operators are inclined to feel the increase in the price, indicating a desire to obtain more of the oil at Powell, shows the belief is stronger that the limits of production at Powell have been reached and that the purchasing companies are desirous of obtaining as much of the oil as possible before the rapid decline starts.

That this decline will be rapid is indicated by the action of the field during the past week. On Tuesday of last week, every well in the field was opened and permitted to produce all the oil it could. The result was a production of 354,893 barrels for the day. That represented the maximum capacity of the field at the time. As far as known, none of these wells was pinched in and yet, despite the fact there were 31 wells completed during the week, production continued to drop from the peak until the field was producing 393,000 barrels daily on Monday of this week. The decline of about 62,000 barrels a day in one week is a criterion of what may be expected in the future.

Wells Showing Water and B. S.

About one-half of the wells in the Powell Field now are showing water and basic sediment. This is another important factor in the situation there. Operations in the field are falling off, also, there being only seven new derricks reported last week. At this time there appears to be only one direction in which the Powell Field may extend and it is not expected that any great territory will be included in that part of the district. Operators are unanimous in the opinion the big production at Powell will not continue very long and that the decline, when it gets started, will be very rapid. Predictions as to just when the big decline will start vary but it seems to be the general opinion the field will have shown a very material decline by the first of the year, some stating the production will be as low as 100,000 barrels a day, while others increase this amount somewhat.

In connection with the situation at Powell, oil men are interested in efforts said to have been made during the past few days by a group of men to contract for Powell production. It was rumored these men represented large California interests. Oil men who claimed to put two and two together felt it was possible some of the Pacific Coast interests were becoming anxious about being able to fulfill their crude contracts from California production and were seeking other supplies, this indicating a considerable decline in California's production was expected.

Predicting Rapid Increase

An increase of 7,000 barrels daily at Long Beach during the past week allowed California to show a gain of 3,100 barrels daily in production, Santa Fe Springs and Huntington Beach again showing declines. A more rapid decline seems to be expected generally on the Pacific Coast as predictions are being made that the production of the State will fall below 500,000 barrels daily shortly after the first of the year.

In connection with the decline in California, the production test of the Salt Creek Field in Wyoming is interesting. The new test which is being conducted now and which has been completed on some of the south zones of the field seems to point to a decided lessening of the potential production of the field and indicates many of the wells which were supposed to be making only 45 per cent of their potential production, under the prorating regulations, were actually producing 100 per cent. The gas pressure of the field is going off and it seems now the time when the wells will have to be pumped is much nearer than any had thought before the test started.

One need not be a pronounced optimist to be able to see readily the worst of the overproduction situation is past and that a steady improvement in the entire industry may be expected from now on. Operators in the older producing territories have the situation well in hand and are being guided in their development work by the needs of the industry. Had these conditions obtained at Powell and in the flush fields of California, there would not have been any overproduction problem. But with the flush fields at Powell and in California on the decline, it is believed it will not be long until an equilibrium is established between production and consumption and that the economic law of supply and demand will again come into its own and guide operators in their future development work.

It seems reasonable now to believe that a season of prosperity for the oil industry generally may be expected to begin with the coming of spring and that, in the meantime, conditions may be expected to show steady and healthy improvement. This feeling seems to be prevalent among the men in the industry who have kept themselves informed as to all developments in the different fields. The belief is growing crude prices have reached the bottom level and with the enormous consumption of petroleum products and the decline in production, prosperous conditions soon will prevail.

PRODUCTION IN THE UNITED STATES

Estimated daily average production in the oil fields of the United States for the week ended November 17, and a comparison with the previous week follows:

Field	Nov. 17	Nov. 10
Oklahoma—Northern Fields:		
Tonkawa	47,274	46,097
Burbank	88,479	85,308
Other Osage Fields	26,100	26,450
Cushing and Shamrock	24,340	24,350
Bristow and Eastern Bristow	49,175	48,100
Northern Miscellaneous	84,920	84,735
Southern Fields:		
Healdton	17,310	17,245
Lewitt	22,220	24,175
Southern Miscellaneous	24,715	24,220
Total Oklahoma	384,533	380,680
North Louisiana	56,965	57,030
Arkansas—		
El Dorado	11,530	10,780
Smackover Light	17,760	17,690
Smackover Heavy	90,145	83,925
Other Arkansas Fields	10,650	9,300
Total Arkansas	130,085	121,695
North Central Texas	116,030	112,365
East Central Texas (Mexia, Currie, Corsicana, Powell)	369,750	337,800
Kansas	70,820	71,010
Total Mid-Continent Area	1,128,183	1,080,580
Gulf Coast	95,930	96,155
Eastern	109,115	109,275
Wyoming-Montana	160,400	149,240
California—		
Santa Fe Springs	230,000	233,000
Long Beach	245,000	238,000
Huntington Beach	75,000	78,000
Torrance	19,000	18,000
Remainder State	197,400	196,300
Total California	766,400	763,300
Total United States	2,260,028	2,198,550

Increase, 61,478 Barrels

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Questions and Answers
on the Wiggins Floating Roof

What is the purpose of the Wiggins Floating Roof?

To reduce evaporation and fire losses in tanks.

How is this accomplished?

By eliminating air space above the contents of the tank.

What does air have to do with evaporation?

Air permits the vapor to pass off the oil in the tank. If there is no air space the oil will not vaporize.

What is the harm of vaporization if the tank is gastight?

When the tank is emptied air rushes in to replace the oil pumped out. Then when the tank is filled, the air, *which has become saturated with gasoline vapor*, is forced out by the incoming oil and *the air takes the vapor with it.*

But is this any considerable loss?

Yes, indeed. Thirty-eight barrels of the *best* gasoline are lost in one emptying of a 55,000-barrel tank. At only 10 cents a gallon, this amounts to $160. A tank handling 10,000 barrels a day will lose 2,500 barrels a year, worth, at 10 cents a gallon, more than $10,000.

Admitting this loss in handling tanks, isn't it a fact that on standing storage there is very little evaporation anyway?

Absolutely no. In one year the evaporation from a 55,000-barrel tank containing motor fuel will be from 750 to 3,500 barrels with a fixed roof, depending on the type of roof. This will be reduced to approximately 300 barrels if a Wiggins Floating Roof is used.

What are the figures for light crude testing from 37° to 40° Be.?

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What device is used to close the gap between float and tank shell?

An ingenious seal which keeps the aperture to a maximum of a small fraction of an inch. The shoe of this seal actually makes contact with the shell.

Is there any difficulty in taking care of rain?

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How is the tank braced against wind load?

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Gentlemen: When your bulletin on the Wiggins Floating Roof is ready, please send me a copy.

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Firm .....

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At Last—Evaporation and Fire Hazard Practically Eliminated

At 3 o'clock in the afternoon of October 16 at our plant in Chicago the flame of a blow torch was applied to a vent in a 30-foot tank of gasoline equipped with a Wiggins Floating Roof. There was a spit of flame, but that was all. The momentary fire went out of its own accord, leaving no damage behind it. The fifty important oil men who were present were astonished—and no wonder; for to how many existing tanks could this test be applied without a dangerous and costly fire resulting!

Other tests were made, including the igniting of gasoline poured on the roof, *without damaging the tank* or contents. They completely demonstrated that the Wiggins Floating Roof makes fire in a tank so equipped practically impossible.

But this proven ability to resist fire is not the greatest advantage of the roof. Its most important asset is the ability to almost entirely stop evaporation. Tests made during the last year show that the greater part of the enormous waste due to evaporation in tanks can be eliminated by the Wiggins Floating Roof.

Think what this means. It means that a great part of the millions and millions of dollars annual loss from evaporation and fire can be saved—and not saved in any intangible way but actually saved in increased gasoline yield and higher gravity.

The loss due to evaporation is estimated by the U. S. Bureau of Mines to be 7½% of the total production of crude—and it is the gasoline fraction which evaporates. Out of a production this year of 600,000,000 barrels the loss by evaporation will be 45,000,000 barrels of the cream of the gasoline—worth approximately two hundred millions of dollars.

Add to this a loss by fire of perhaps twenty millions of dollars, and you can see the total annual waste which the Wiggins Floating Roof will reduce.

We believe you want detailed information about the evaporation loss and the Wiggins Floating Roof. We are, therefore, preparing a bulletin which you may receive when it is ready by sending us the adjoining request slip.

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MR. MELLON'S TAX REFORM

Three features stand out in the amendments of the income tax law recommended by Secretary Mellon. They would reduce taxes, stimulate general business and benefit both the Government and the taxpayer.

The relief from excessive taxation would mean much more than the actual reduction in the amount paid by each taxpayer to the treasury. Taxes are added to everything we eat, wear, or use eventually and thereby increase the cost of living, often much more than the actual tax total. Increased cost compels reduced buying, to that extent hampering business, employment and general prosperity. Besides that burden the existing income tax system drives capital into investment in the tax exempt securities of State and municipal bonds, not only depriving industry and business of needed investment capital, but encouraging States and municipalities to indulge in a veritable orgy of bond issues which eventually mean increased local and State taxation to carry them, a truly vicious circle.

Mr. Mellon's amendments will not only lessen the tax burden directly but, by reducing taxation, tend to lower living costs and, at the same time, by assuring investors of being permitted to retain a reasonable return on their investments, encourage them to put their money into enterprises that will develop new business rather than hiding it in State and local tax exempt bonds which in turn add to the local and State tax load.

As his recommendations affect the oil industry, it will, of course, share in the general benefits, in the freeing of capital for investment in the development of the industry, so much needed just at this time, and in encouraging that development by the assurance of retention of the rewards of enterprise. Difference of opinion regarding the proposal for the limitation of the deduction on capital losses is a matter to be argued out in Congress. Mr. Mellon views the problem from the dual standpoint of the interest of the Government and of the business which supports the Government. He can be trusted to have studied the situation thoroughly and to be on sound ground.

THE COST OF CHEAP GASOLINE

The clamor for cheap gasoline, promoted for political purposes, is being swelled by new voices daily. Oil-baiting Governors are written to by others eager to make political hay while the sun shines; while legislators, State and national and even municipal, dance up and down on the side lines awaiting their chance to break into the game.

Meanwhile the news in the daily papers, certainly never noted for saying a good word for the oil industry, is being ignored, news that has a distinct and immediate bearing on the whole proposition, and is of direct importance to every user of petroleum products.

Side by side with the cry for cheap gasoline there has always been the charge that the price was kept up by lack of competition.

Let us see what the clamor for cheap gasoline is doing to competition in the oil industry.

When, in obedience to the demands of the Governor of South Dakota the first slash in gasoline was made in that State, who were the first to protest? The so-called independents, many of whom had been the most active in abetting the agitation which the Governor brought to a focus. Their plaint was that the cut would drive them out of business. When it comes to cutting prices too close for profits it is always the smaller fellows who are most endangered while the larger, with resources to carry them over a bad period, can keep on.

The same process is being reported in the producing and refining branches. The cuts in crude, following the cuts in gasoline, have borne most heavily on the smaller organizations. The general demoralization of the industry following the upsetting of the market has forced refineries to close.

Then came intimations such as that from the financial pages of the New York Times that "the oil industry is on the brink of a new era of mergers, consolidations and deals, with predictions that it will be only a short time until many of the smaller companies will be overcome by the strain of carrying large inventories of crude and refined products. If predictions come true, an increase in the number of mergers and deals may be expected during the next six months."

Does this convey nothing to the 13,000,000 customers of the filling stations? What does it mean as to the effect in reducing that competition which the political and official oil-baiters have been holding out as so desirable?

In the long run, in any business, competition can, of course, only continue when there are profits to be made. There can be no permanent competition for losses.

When prices for any product fall below the level of reasonable profits it becomes a case of the survival of the strongest. These naturally use their strength to restore prices to a living level. In the ordinary course of business the tendency is to regain what has been lost. There is no reason why the oil business should be an exception.

Thus it is plain that the net effect of the popular and political cry for cheap gasoline has been and must be the reduction, rather than the encouragement of competition, and an inevitable return to profitable prices.

This is so simple and elementary a proposition that it is strange it never seems to occur to the critics of the oil business, which they appear to think must be different from any other. This time, however, the sequence of developments has been so rapid, so clearly defined, that there is no excuse for failing to notice it and appreciate what it means.

Isolated "bankrupt sales" may sound good to the ordinary buyer but he cannot have bankrupt sales of a product in daily use, compulsory upon the entire industry supplying that product, without sooner or later having to face the alternative of being unable to get that product or having to pay a price that will encourage its continued manufacture. Let each consumer of gasoline ask himself whether he would not rather have a steady supply at a reasonable price or have bankrupt prices one season and famine prices thereafter to enable the industry to recover its feet. Let him figure the average over a period of years and see for himself which is the more profitable to the industry and to the consumer.

If the motoring public is to have gasoline at a fair price, all the time, it must get over this notion of joyriding on profitless "gas." It must understand that gasoline at prices which have demoralized the industry must reduce that very competition which they have so long contended they must have.

Why would not this plain statement of cause and effect be an educational argument to place before the 13,000,000 patrons of the filling stations as suggested in The Oil and Gas Journal? Anyone can understand it, can see its relevance, and appreciate its logic in everyday business. In short, the motoring public, clamoring for cheap fuel, must be shown that it cannot eat its cake and have it.

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COUPLINGS

Kerosene Features Group 3 Market

Strong Export and Domestic Demand Exceeds Supply and Prices Advance. Natural Gasolines Again Reduced

By C. O. Willson

Kerosene, for several weeks the one product which has shown consistent strength in Group 3, has obtained an even stronger position and is the market feature of the past week. Additional export purchases with assurance that more is to be purchased for foreign consumption, coupled with a domestic demand which is at least equal to that which has prevailed since early fall, has developed a market situation which is encouraging to refiners even though the improvement is largely confined to one product.

Outside of kerosene there is little change in the market over that which obtained the previous week. The higher gravity gasolines are slightly lower in price but New Navy is unchanged. This price firmness on the part of New Navy when lower prices were expected and sought by many buyers also represents a favorable development of the past seven days, although the situation does not yet justify any definite conclusion as to the future market trend of this product. In the opinion of most market observers New Navy, and in fact, all grades of straight run gasolines have yet to demonstrate that bottom prices have been reached. Natural gasolines declined another ¼ to ½ cent during the past week in price with no general improvement in demand in sight at this time. Other products were not materially changed as to price.

Kerosene in Demand

Kerosene, due to the exceptional export and domestic demand advanced from ⅛ to ¼ cent on all grades. Some of the trade in this group who are in touch with kerosene market conditions not only in the Mid-Continent area but the entire United States are predicting 5-cent kerosene before the end of the month and it is generally agreed that the market will be strong over the remainder of the year, at least. This improvement in the kerosene market is an aid to the refining industry of the Mid-Continent area, although the kerosene output constitutes only about 10 to 12 per cent of the bulk sales. In the case of one refiner at least the difference between present prices and those prevailing six weeks ago represents the profit from present refinery operations. The position of this plant approximates that of some others.

The Standard Oil Co. of New Jersey purchased additional kerosene for export during the past week. A considerable quantity is understood to have been bought from the Imperial Refining Co. and other Group 3 plants for shipment both over the remainder of the month and the balance of the year. The entry of the New Jersey company into the Mid-Continent Field as a buyer of kerosene for export last week was a surprise to the trade. This company so far as the Mid-Continent area is concerned, has confined its recent purchases to natural gasolines with the exception of the contract made last spring with the Marland Refining Co. for straight run gasolines. The fact that the company was forced to buy kerosene in this group in spite of its connections with California and other refining centers, is taken to indicate a general scarcity of the product for shipments over at least the balance of the year.

The company has purchased several million gallons during the past 10 days at prices in line with the present domestic market. It is also known that two other companies of the Standard group have made surveys of the Mid-Continent Field to determine the kerosene situation with the view of buying if the supply and price were acceptable. So far as known, neither of these concerns has made purchases in Group 3, although there are reports to the effect that some business has actually been placed.

Good Domestic Movement

In addition to the export business there is a satisfactory domestic movement. Many refiners are unable to take on any of the export orders which have been offered them due to this regular domestic trade. A few refiners are selling both the 41-43 and the 42-43 grades direct to the trade at 4¾ cents. Due to the prospects of higher prices, some domestic buyers have been in the market for December shipment. Refiners are not giving any price concessions for the advance business and some are loathe to quote over December at present prevailing quotations.

In addition to the Standard Oil Co. of New Jersey, the Carson Petroleum Co. and the Sinclair Refining Co. (Union Petroleum Co.) has purchased some kerosene for export. The purchases of the latter company have not been large and this group has had very little participation in the business, most of which is understood to have been placed with North Texas plants.

The recent heavy buying is said by buyers to have about cleaned up the available supply over the balance of the month for the entire Mid-Continent region. Although so far as the Mid-Continent area is concerned there is nothing yet to back up the assertion, there seems to be a general opinion that refiners have curtailed and will continue to curtail their refinery runs due to the generally unfavorable market condition with the exception of kerosene. If this prophecy is carried out obviously it means a corresponding decrease in kerosene output which would bring further advances to the market. Some have claimed that more of the product will be available through greater kerosene recovery at the plants. Refiners are inclined to discount this development, stating that any material increase in kerosene recovery is only possible through a corresponding decrease in gasoline recovery and this development is improbable as long as gasoline prices are higher than those obtained for kerosene.

The Bureau of Mines report for September (latest available) shows kerosene stocks of 238,024,012 gallons, the lowest in the recent history of the industry. In its report for October, announced this week, the American Petroleum Institute estimates that stocks declined in October an additional 15,302,910 gallons. If this decrease is borne out by later reports of the Bureau of Mines it is apparent that with a total kerosene consumption in excess of 200,000,000 gallons monthly, the product at the present time has exceedingly strong position in regard to supply and demand. A note of warning is sounded by those who have watched developments in previous years. After a steady increase from September 1 through November last year, consumption experienced a large slump in December. Fall rather than winter is the period of heavy kerosene buying both for domestic and export consumption and some market observers are not so confident regarding the present outlook as are a majority of the trade.

Gasoline and Naphtha

Cosden & Co. surprised the trade when on Saturday it advanced its spot New Navy price to the trade to 7¼ cents—¾ to 1 cent higher than the prevailing spot market. At the same time it is understood the company notified jobbers with whom it has marginal contracts, that in the future their sales to them would be based on the actual purchases made by these jobbers during the summer months. In this connection it will be recalled that up to the 6.6-cent gasoline tank wagon reduction made effective in the Standard of Indiana territory in August, the spot market on gasoline had been considerably lower for several months than the marginal contract basis. Due to this situation there was a tendency on the part of some jobbers to

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REFINED MARKET BAROMETER

Kerosene continued to feature refined markets throughout the United States during the past week. A strong domestic movement reported from practically all areas coupled with large export purchases in some sections brought price advances. Stocks have been reduced and further price advances are expected in several areas. Gasoline prices were firmer than the previous week but market is still generally unsettled with a further reduction in export prices expected. Fuel and gas oil market conditions were not uniform but there were no important price changes. Distillates generally sluggish. Natural gasolines weak. No general changes in other products.

Mid-Continent—Little change in markets with the exception of kerosene, which is strong with higher prices in all areas and natural gasolines which continue weak with further price reductions. Strong export and domestic demand for kerosene has reduced stocks to a minimum in entire areas and higher prices are probable. Demand for fuel and gas oils fair but prices are generally the same as those prevailing last week. Slow movement of distillates but no general price changes. Neutrals unchanged.

Atlantic Seaboard—Recent reductions in tank wagon and export prices has unsettled the gasoline market. Lower export prices are feared with no assurance that domestic market has reached bottom. Many refiners believe that situation will improve after the first of the year. Lubricating oil demand strong. Kerosene strong as reflected in recent tank wagon advances.

Pennsylvania—Crude reduction of last week did not result in generally lower prices. Kerosene and gasoline sluggish with no important price changes. Good demand for cylinder oils and prices have been advanced by some plants.

Gulf Coast—Fair to strong demand for all grades of neutrals and prices are unchanged. Best demand for the 200 viscosities. Fuel oil steady. Gas oil slightly lower in price.

Chicago—Six-cent New Navy avilable in considerable quantities. Prices range up to 7 cents. Good demand for all burning oils and prices are generally higher. Natural gasoline soft. Fuel oil weak. Good demand for bright stocks.

SOUTH DAKOTA DEALERS DECLARE GOVERNOR'S PRICE UNJUSTIFIABLE

By Staff Correspondent

SIOUX FALLS, S. D., Nov. 20.—Standard Oil and independent dealers of South Dakota, with one exception, are standing pat on the price of gasoline fixed by them recently, which is 17½ cents per gallon in the Sioux Falls district, and 18 cents elsewhere in the State in spite of Governor McMaster's threat that the State would sell gasoline as low as 12½ cents per gallon in every city and town in the State where the dealers refused to lower to his price of 15½ cents in the Sioux Falls district and 16 cents elsewhere in the State.

The only dealer—an independent—to meet the Governor's demand is George McDonald, of Sioux Falls, who yesterday commenced selling gasoline at 15½ cents, the remaining independents and Standard Oil dealers maintaining the price of 17½ cents.

At Mitchell, what may be a prolonged gasoline war opened this morning when the State commenced selling gasoline at 12½ cents when the Standard Oil and independent dealers of Mitchell ignored an ultimatum issued yesterday by the Governor, giving them 24 hours in which to reduce their prices to 16 cents as a basic price. Yesterday the State supply depot at Mitchell was selling gasoline at 16 cents and it was stated by those in charge that the tanks of more than 200 autos and trucks were filled at this price. Mitchell Standard Oil and independent dealers, who are selling at 18 cents insist that to sell gasoline at 16 cents would mean a financial loss and assert there is little chance that they will reduce their price from the present 18-cent basis.

A new element has been injected into the gasoline price war by the Deadwood Daily Pioneer Times, which questions the authority of Governor McMaster to purchase gasoline for the State for the purpose of selling it at retail. The Deadwood newspaper quotes Section 9, Article 11 of the State Constitution of South Dakota, which says: "No indebtedness shall be incurred or money expended by the State, and no warrant shall be drawn upon the State treasurer, except in pursuance of an appropriation for the specific purpose first made."

Talk of instituting an action in the courts to prevent the sale of gasoline by the State has subsided. The question of his authority to engage the State in the oil business may be raised when the State auditor is called upon to O. K. bills presented to him for gasoline purchased to be sold at retail, as his authority is very clearly defined by the State Constitution and acts of the Legislature.

Governor's Ultimatum

Governor McMaster's statement follows:

"A price of 16 cents a gallon for gasoline was established at Mitchell on November 13 as a fair price, permitting a 40 per cent profit. It is evident that the independents and the Standard Oil Co. have combined to force higher prices without resistance on the part of the State.

"There is no justification for dealers at this time to ask for a 60 per cent profit, which a 2-cent increase in price 000,000 a year, and in view of the fact

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Natural Gasoline Manufacturers Meet

Fall Conference at Fort Worth Hears and Discusses Important Papers Dealing With That Branch of the Industry

By Dan F. Dugan

FORT WORTH, Tex., Nov. 19.—The Association of Natural Gasoline Manufacturers held its Fall Conference here last week with approximately 150 gasoline manufacturers, engineers and men in the allied industries present. The sessions were held in the Crystal ballroom of the Texas Hotel.

The conference opened with Frank L. Chase, of the Lone Star Gas Co., of Dallas, presiding; D. E. Buchanan of Tulsa, president of the association, yielding the chair to Mr. Chase, who as vice president welcomed the delegates to Texas, expressing the pride the Texas members took in entertaining those engaged in this particular branch of the oil and gas industry.

Following the formal opening President Buchanan delivered his address, a very comprehensive one, dealing with the subject, "Is Our Organization a Necessity?"

Mr. Buchanan's address inspired a general discussion of the material benefits from the work of the association. It was pointed out that recent accomplishments of various committees had saved within the short period of a few years thousands of dollars for the members and had been responsible for a much larger saving to the industry in general since the results of the work done by the association were felt by nonmembers in the industry as well as by its active members.

Growth of Organization

W. M. Welch, of the Tidal Refining Co., of Tulsa, now vice president and formerly president of the Natural Gasoline Manufacturers Association, one of the oldest members of the association in point of service, told of the organization in 1906 of the Natural Gas Association of America at Kansas City, with only 13 charter members. He said the name of the organization was rather presumptious since all the 13 members were from the States of Kansas and Missouri. Mr. Welch told of the results gained through the concentrated effort of these 13 men and compared it with the possibilities of an organization like the Natural Gasoline Manufacturers Association. The association organized in 1906 with 13 members had grown to a membership of approximately 3,500.

Continuing, Mr. Welch stressed the importance of trade associations as absolutely essential to the life of any industry or any branch of an industry. He declared the results of such associations, which may at first appear to be only superficial, when carried to the final analysis would be found to have a direct bearing on the fundamentals of the industry.

Following Mr. Welch several members made short talks, testimonials to benefits received from the organization. S. C. Carney of the Roxana Petroleum Co., in a brief statement, said that beneficial results had come so suddenly that at first members were prone to believe they were only accidental but later discovered they were direct results of work being done by the committees of the association.

R. R. Owens of Ponca City, of the Natural Gas Division of the Marland Refining Co., W. M. Melton of the Liquefied Petroleum Gas Co., Tulsa, and Emby Kaye of the Skelly Oil Co., Tulsa, spoke along the same line.

E. L. Peck, of the Empire Gas & Fuel Co., of Bartlesville, Okla., spoke on the value of ideas obtained through contact with those in his industry. He expressed the opinion that the exchange of ideas regarding the industry was one of the greatest benefits derived from association work.

Directors of the association present at the opening session Thursday were, D. E. Buchanan, Tulsa; W. M. Welch, Tulsa; F. L. Chase, Dallas; Emby Kaye, Tulsa; W. A. Melton, Tulsa; R. R. Owens of Ponca City, and E. L. Peck of Bartlesville.

Charcoal Process Explained

The afternoon session Thursday was devoted almost entirely to the reading of a paper by G. G. Oberfell, consulting engineer of Tulsa, on the "Uses and Limitations of the Charcoal Process" and to the general discussions of this subject following Mr. Oberfell's paper. Mr. Oberfell and George A. Burrell of Pittsburgh, Pa., are co-inventors of the charcoal process.

The banquet at the Texas Hotel Thursday night was followed by a vaudeville entertainment given for the visitors at the University Club, provided by Messrs. Gleason and Taylor of the Central Texas Petroleum Co. of Fort Worth.

F. L. Chase, vice president of the association, who presided at all sessions Thursday, acted as toastmaster at the banquet. The principal address was by Sidney L. Samuels, Fort Worth attorney, who spoke on "Prospects," largely the prospects for better business, not only as it pertained to those representing the gasoline industry, but to business in general. He also touched on the laws affecting the gasoline industry.

President Buchanan expressed the appreciation of the association for the instructive talk delivered by Mr. Samuels.

W. M. Welch of Tulsa, formerly president and now director of the association, presided at Friday afternoon's conference when three papers were read, one by H. W. Price of the J. M. Huber Co., of Swartz, La., on "Carbon Black"; one by D. E. Foster of Tulsa, on the "Use of Natural Gasoline in Refineries," and one by A. V. Bourque, secretary of the association, dealing with the value of statistical information. Mr. Price's talk brought forth much discussion, members pleading for additional information, particularly regarding values, shipping requirements and the amount of carbon black available from certain volumes of gas, together with costs, etc.

Need for Statistics

Mr. Bourque stressed the importance of statistical information to the members of the association and to the industry as a whole, pointing out that much of the work was in connection with such organizations as the Interstate Commerce Commission, the Bureau of Mines and the Bureau of Explosives. He declared that statistical figures have more weight with these bodies than volumes of unsupported argument, no matter how important the argument might appear to the industry. Mr. Bourque referred to specific instances where statistical figures had carried the point for the association.

"We must present reliable statistics

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TRADE ASSOCIATIONS ARE AN AID TO INDUSTRY AND THEIR MEMBERS

By D. E. Buchanan

In this day of hetic existence when the clouds hang heavy over our business firmament, and the weight of problems both new and old, mostly new, employs our time and thought, in a candid appraisal of our expenditures, we needs must ask ourselves is any association, and ours particularly, an absolute necessity? Can it be of worth while assistance to me individually and to the interests I represent, and am I justified in supporting it with my time and effort, and a small portion of the funds entrusted to me by my friends and colleagues?

Speaking for all lines of endeavor in general and the natural gasoline business in particular, I answer in the affirmative.

I believe some of us actively engaged in the business of manufacturing and distributing natural gasoline probably do not realize the rapid growth that has characterized our particular branch of the industry in recent years, and probably do not appreciate the great economic value of the product from the standpoint of supplying the motor fuel of the world.

Only a very few years ago natural gasoline was considered a by-product if not an outlaw product. The production was small, the number of manufacturers few and probably an association was not at that time necessary to co-ordinate the efforts of the individuals, engaged as they were, in manufacturing the product as a side line.

Now a Basic Product

As is characteristic of conditions in the petroleum world, the scene has changed—natural gasoline is now considered a basic product in the manufacture of motor fuel to the extent that the average gallon of motor fuel contains approximately 1 pint of natural gasoline.

Not so long ago the users of the product were few and many of those few were cautious to see that they were not found out because of the unfavorable light in which the product was viewed, due partly to the lack of knowledge of its possibilities and partly to the stigma which grew out of the very satisfactory blends that had been offered on the market by natural gasoline manufacturers under the guise of motor fuel.

Today, natural gasoline is not only considered desirable in the manufacture of the best motor fuels, but is considered a necessity not only from the standpoint of performance in use but from a standpoint of efficient and economical refinery operation.

For this association we claim no small part in bringing about this new era.

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NATURAL GASOLINE MANUFACTURERS IN CONVENTION AT FORT WORTH, TEXAS

Oil Industry Likes Mellon's Tax Changes

Leaders and Experts Approve Generally Secretary of the Treasury's Recommendations Regarding Income Tax.

By Charles E. Kern

WASHINGTON,— D. C., Nov. 19.— The recommendations for a change in the Federal tax law, made by Secretary Mellon of the Treasury Department, have a special bearing upon the oil industry, particularly as to the deduction of capital losses, upon which the Secretary makes a double suggestion.

He calls attention t the fact that the present revenue law limits the tax on capital gain to 12½ per cent but puts no limit on capital losses. He believes it would be sounder taxation policy generally not to recognize either capital gain or capital loss for the purpose of income tax, as that policy is adopted in practically all other countries having income tax laws. He is of opinion that more revenue has been lost to the Government by permitting the deduction of capital losses than has been realized by including capital gains as income. His recommendation is that capital gains and capital losses should be treated alike, by taxing the gains 12½ per cent and permitting deduction at not to exceed 12½ per cent of the loss.

So far as the workers in the oil industry are concerned, the recommendations of Secretary Mellon will work a decided benefit. On incomes over $10,000 the new tax reductions are considerably less than on the smaller incomes. A reduction in the tax on earned income is 25 per cent when distinguished from income from investments, and it is estimated that this amendment will result in a loss of revenue of about $97,500,000 a year. Where the present normal tax is 4 per cent. it is to be reduced to 3 per cent, and where it is 8 per cent the reduction is to 6 per cent. This alone affects all personal incomes, more especially the lower incomes, and it is estimated that this will mean another loss in revenue of $97,600,000 a year.

Surtaxes Unproductive

Surtax rates are to be reduced by beginning their application at $10,000, instead of $6,000 and scaling them progressively upwards 25 per cent to $100,000. The Secretary does not approve of surtaxes since their productivity has been constantly lessening as the high rates of these surtaxes induced the taxpayer to reduce his taxable income by investments in tax-exempt securities. He hopes that by scaling down the surtaxes there will be a greater tendency for capital to be placed in productive business.

Summing up these changes, it is estimated that about 70 per cent of the total reduction amounting to about $300,000,000 would be on incomes of $10,000 or less, and less than 5 per cent would fall upon incomes of over $100,000 per annum. It is of interest to know that incomes between $100,000 and $150,000 affect 3,620 persons; from $150,000 to $200,000, 1,430 persons; and over $1,000,000 relates to 30 incomes.

The amount of favorable comment upon Secretary Mellon's taxation plans has astonished everyone interested in these efforts to reduce the burden of taxation upon the American people. There has been almost no adverse criticism, but this must not be interpreted as an indication that the new taxation schedule will be disposed of by Congress in a brief period, or with little debate. The fact is, it will open up a subject for debate that is bound to call forth the united energies of all the followers of Senator LaFollette and to result in criticism and long speeches by Senator LaFollette himself.

So far as the oil industry is concerned the administrative features of the law will prove to be the most important to be looked after by representatives of the industry. It is well known just how the present administrative features of the bill will work out in respect to discovery values, depletion and other important features of the law, and it is also well known that discovery value and depletion perform an extremely important factor in determining the amount of taxes that are paid. It will be well if the industry can keep a careful watch upon the revenue act that is now being framed by the Committee on Ways and Means of the House of Representatives, with the assistance of the experts of the Treasury Department. It is believed this bill will be ready for consideration by the Committee before Christmas, and in fact there are many who expect it can be passed by the House as early as January 15. That seems hardly likely, however, as the measure is sure to excite a great deal of debate, because Democrats are not likely to neglect this opportunity to register various sorts of criticism against the administration in respect to the entire question of taxation.

In other words, Secretary Mellon's plan for reducing taxation will be kicked around in both House and Senate for what it is worth in the next presidential election. The soldiers' bonus will be one of the thorns in the side of the taxation reform proposed because it is well understood and clearly stated by Secretary Mellon that both a soldiers' bonus and a tax reduction plan cannot be adopted simultaneously. It will be one or the other, and he is in opposition to the bonus, as he believes that by a reduction of taxation business activity will be accelerated and the whole country will be benefited.

Oil Men's Opinions

The recommendations of Secretary Mellon meet with the approval of oil men and oil company officials in Tulsa.

W. N. Davis, president of the Mid-Continent Oil and Gas Association approves of the Mellon program in its entirety and has had 2,400 copies of the Mellon letter to Acting Chairman Green of the House Ways and Means Committee sent to him for distribution and strongly urges every oil man in the Mid-Continent Field to get behind the Mellon proposals by writing or interviewing congressmen.

James J. McGraw Approves

James J. McGraw, president of the Exchange National Bank said:

"Secretary Mellon is the most efficient and forceful secretary of the treasury we have had during the last generation. He is thoroughly sound and is intensely interested in getting the financial affairs of this government in a first class condition. With that thought he has, of course, given the subject of revenue great study. He is capable of doing that thing. His recommendation should be enacted into law.

"There is no incentive for men of large means to invest their money in the ordinary commercial line of business. The surtax is so excessive they have little left. They naturally conclude there is no use in taking any chances in a commercial establishment, when they can just as well invest their money in tax free securities.

"The best and quickest way of getting business back to where it was prior to the war is to repeal a lot of the foolish revenue acts passed by congress and give men of means some incentive for making investments in the ordinary course of business. The effect would be to almost immediately stimulate the industrial and agricultural development. This should be clear to most anyone who cares to make a study of the situation.

"The trouble these days is that we have too many demagogues in office who are always attacking men of means and large business affairs. What we really need is more business and less politics in the government's affairs, and I believe if the recommendations made by Secretary Mellon are followed that is what we will get."

H. H. Smith's Statement

Harry H. Smith, secretary of the Mid-Continent Oil and Gas Association made a written statement at the request of The Oil and Gas Journal:

"There can be no question that these proposals are the best and most important that have been made with reference to taxation since the war. Capital has been naturally timid in the face of tax rates which have, at times, extended up to 73 per cent and are now at the 58 per cent maximum. It is no wonder persons of large incomes have, by the hundreds, ceased constructive financial enterprise, placed their money in tax exempt securities and gone fishing. I believe these high surtax rates are the principal cause for the present slowing up in business and their reduction would be the most potent means of stimulating business. A surtax is the greatest enemy of the oil producer. The manufacturer, as a usual thing, has a fairly uniform income over a period of years and therefore, pays a certain rate of tax. But in the same given period, the oil producer may have the same total income but derive it all in one year after four or five years of fruitless endeavor. The application of the surtax to the income suddenly derived in one year has actually resulted in oil producers paying twice as much tax in a five-year period as the manufacturer, although they both derived the same amount of income in the five-year period and had approximately the same capital investment.

"With the tax rates reduced as suggested by Secretary Mellon, a 6 per cent industrial bond will yield the investor as much, after payment of the tax, as a 4½ per cent tax exempt bond would yield him without payment of tax. This will constitute the remedy for the present much talked of evil of tax exempt securities and do away with the need of another constitutional amendment to permit the doing of the illogical thing of one government, towit, the Federal Government, taxing the income of bonds issued by another government, towit, the States.

"The proposal to limit the deduction of capital losses to 12½ per cent of the loss presents a question. Recent amendments of the federal income tax law limited the tax on gains derived from the sale of capital assets to a flat rate of 12½ per cent of the gain but leaving all losses to be deducted against the income before the tax is applied. The proposal to limit the deduction of capital losses to 12½ per cent would seem to be an effort to make the law symmetrical. But the fact remains that gains derived from the sale of capital assets are all taxed. Therefore, why should not all such losses be deducted? Congress reduced the tax to 12½ per cent because capital gains are supposed to have accrued over a period of years, in fact, they must have accrued over at least two years or else the 12½ per cent flat rate does not apply. This was a recognition by congress of the injustice of taxing at the high surtax rates of one year a capital gain that it may have taken 10 or 20 years to create. It was an example of one of the evils of the surtax as an institution. Congress, therefore, decided upon a flat rate. The supreme court of the United States has held that gains derived from the sale of capital assets constitute income and are, therefore, taxable, but it is also held that losses derived from a conversion of capital assets constitute outgo as contra-distinguished from income and should, therefore, I think, be deductible in whole.

Proposal No. 5 has for its purpose the correction of a practice which has heretofore obtained by which persons of large income have purchased tax exempt securities with their cash and borrowed money for business purposes, charging the interest against income. The Revenue Act of 1921 provides that interest on indebtedness to acquire or carry tax exempt securities is not deductible. This provision has been somewhat ineffective because the taxpayer has used his cash for the purchase of tax exempt securities and has borrowed money for other purposes.

"I think the establishment of a board of tax appeals independent of the bureau of internal revenue is most important. The function of determining issues with relation to disputed taxes is a judicial one which should be removed as far as possible from those who are charged with the administrative duties."

Frank Orr's Comemnt

Frank Orr, tax attorney in the United States for all the Sinclair oil companies dictated a statement of his views:

"Secretary Mellon's exposition of the federal tax situation is not only timely but the reasons given for the suggestions made are, in my judgment, unanswerable when considered with political eyes shut.

"The reduction in federal tax rates, in my judgment, will have a psychological effect even though the amount of money that may be saved by reduction in rates does not go into saving accounts. In my judgment the benefits recurring to the oil industry by the reduction in tax rates at this time will be more indirect than direct for the reason that most of the oil industry would not be injured if the government tax rates were 100 per cent as I observe in a majority of instances for the year 1923, 'there ain't goin' to be no net income.'

"I agree with Secretary Mellon that capital gains or losses should not be considered as income, but inasmuch as the law as interpreted says that it is, I cannot agree with him that the losses should be limited to only 12½ per cent, more particularly as it affects the oil industry, as it is my opinion that the capital losses as well as the capital gains are generally out of proportion to that of other industries.

"I believe that Secretary Mellon is to be commended in his stand for the reduction of surtaxes. There is no doubt in my mind that if the surtax rates are materially reduced, even to a lower figure than suggested by the secretary, within the next three to five years the government will collect considerably more revenue from this source for the reason there would be encouragement given to men of means to invest in commercial

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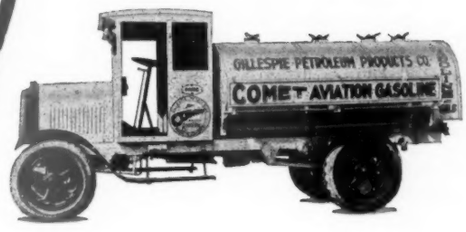
Announcing



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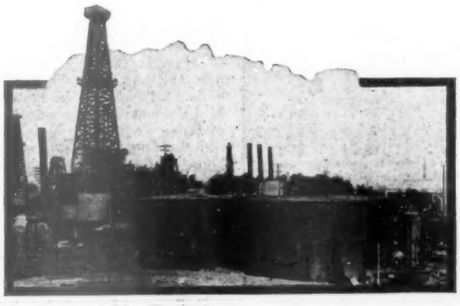

THE opening of a Columbian Steel Tank Company warehouse and office at Owasso Street and the Frisco Tracks in Tulsa, Oklahoma.

Mr. H. R. Leland is in charge as district representative.

This opening is in line with the company's program of expansion and is for the purpose of placing at the quicker disposal of the oil industry of Oklahoma and Southern Kansas the entire engineering and manufacturing facilities of the company.

Mr. Leland has gained considerable prominence in the industry through his extensive research work in connection with the prevention of oil evaporation and in the design of tank storage.

Complete stocks of Columbian Products, as listed at the left, will be carried at the Tulsa warehouse. With this full line on hand Mr. Leland is prepared to render prompt service to all branches of the industry. He and his staff are at your command and may be reached as follows:

H. R. Leland, Dist. Rep.

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Owasso Street and the Frisco Tracks
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Los Angeles, Calif.,
806 Wright & Callender Bldg.

Casper, Wyo.,
321 Moose Bldg.

Course of Oil Securities Is Irregular

Outstanding Feature of Week Was Weakness of Pipe Line Issues, Following Passing of Crescent Co. Dividend

By N. O. Fanning
Room 525 No. 30 Church St., New York

NEW YORK, Nov. 19. — Oil stocks were irregular during the past week.

The outstanding feature was the weakness of the Standard Oil pipe line issues on the Curb, following the passing of the Crescent Pipe Line dividend. Illinois Pipe Line stock broke from around 153 to 123, down 30 points, while New York Transit and Buckeye Pipe stocks were exceptionally weak. New low prices for 1923 were recorded in these issues.

Of the other oil securities traded in on the New York markets Middle States Oil was weak, dropping to a new low at 3½. On the other hand, the Standard Oil refining and independent oil issues were firm. Vacuum Oil was a strong feature as a result of the declaration of an extra dividend of 50 cents per share in addition to the regular quarterly dividend of 50 cents. The stock reached a new high on the movement above 53. International Petroleum and Imperial Oil, Ltd., were both steady.

California Petroleum common featured the California oil issues advancing to above 22 on an extremely favorable financial statement for the first three quarters of 1923.

The statement of the Pacific Oil Co. for the first nine months of 1923 was more favorable than was anticipated, the company reporting balance of $6,871,572, equivalent to $1.96 per share on the 3,500,000 shares, no par value, common stock outstanding, after deducting taxes, depreciation, depletion, etc., compared with $9,204,080, or $2.63 per share, in the corresponding period of 1922.

The lower Ohio Oil Co. dividend resulted in a break in the stock of the company from 65 to about 55.

Royal Dutch-Anglo-Persian

The possibility of the sale of control of the Anglo-Persian Oil Co. to the Dutch-Shell combine, which has come up before the British Government, is one of the outstanding developments in oil history. Although it may not go through, indications are that the British Government is seriously considering the matter. A combination such as this would provide the stiffest competition to American exporters of oil that has ever been witnessed. The battle would probably be decided by the ability of either side to procure large quantities of cheap crude oil as against the other's inability, and would mean a renewal of the world-wide scramble for prospective oil fields on a larger scale than ever.

The present market value of the 5,000,000 shares of Anglo-Persian Oil Co. held by the British Government is £14,000,000. The company has an exclusive concession amounting to 500,000 square miles of the most desirable oil territory in Persia, and has already developed a daily production of about 30,000 barrels. In addition Anglo-Persian indirectly controls oil concessions in North and South America, which are now under development.

The Dutch-Shell combine has made such rapid strides in the last few years that it is already providing stiff opposition in foreign markets to American oil concerns. Through the organization of the Shell Union Oil Corp. and the properties which the latter controls, Dutch-Shell has an invaluable source of crude oil in the United States.

The proposed Dutch-Shell-Anglo-Persian deal would take the British Government out of the petroleum business, but the combine which would result would have the fullest support of the British and Dutch Governments, and this would emphasize more than ever the need for American support of American oil companies.

Sinclair-Stinnes

The tour of the oil fields made by H. F. Sinclair and Hugo Stinnes, Jr., has aroused considerable interest in financial circles here. Stinnes, Sr., is one of the leading industrial barons of Germany. He has built up a gigantic German steel combine since the war and is now turning his attention to petroleum through his organization, the Ariengesselschaft fur Petroleum Industrie. The trip which his son has been taking with Mr. Sinclair has aroused talk of a deal whereby the Sinclair organization would supply oil for Stinnes' organization, to be marketed in Germany. The Standard Oil Co. of New Jersey is now the leading marketer of oil in that country.

Continental Oil-Mutual Oil

Interest in domestic oil developments centers on the negotiations for the consolidation of the properties of the Continental Oil Co., a former Standard Oil subsidiary, and the Mutual Oil Co. The merger will probably be effected by the formation of a new company, to be controlled by Mutual Oil. However, the terms are understood not to have yet been arranged.

Pacific Oil Report

The financial statement of the Pacific Oil Co. for the nine months ended September 30, 1923, compares as follows:

	Nine Months— 1923	1922
Gross earnings	$14,404,274	$16,409,155
Operating expenses	5,801,360	5,443,167
Taxes, exclusive of Federal taxes	954,355	617,393
Net profits	$ 7,648,559	$10,348,595
Other income	1,712,995	1,446,486
Gross income	$ 9,361,554	$11,795,081
Reserved for depreciation and depletion	2,212,415	2,281,030
Reserved for Federal taxes	277,567	309,971
Surplus	$ 6,871,572	$ 9,204,080

Dividends

The Vacuum Oil Co. declared an extra dividend of 50 cents per share in addition to the regular quarterly dividend of 50 cents, both payable December 20 to stockholders of record November 30.

The Solar Refining Co. declared a dividend of $5 per share, payable December 20 to stockholders of record November 30. This brings 1923 dividends up to $10 per share.

Stockholders of the White Oil Corp. approved the sale of assets to the new company to be formed under the reorganization plan. It is reported that 100 per cent of the preferred and 85 per cent of the common stock were in favor of the plan.

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

No.	Stock—	Par	§Dividend Rate	Closing Quotations Nov. 20	Nov. 13	Range 1923 High	Low
1.	Associated Oil	25	6	26	*25½	27½	24⅝
2.	Atlantic Refining, common	100	4	106	*108	160	98¾
3.	Barnsdall "A"	25	..	12⅜	*11	35	9⅞
4.	Caddo Central Oil	..	..	*1	1⅜	9⅛	1⅛
5.	California Petroleum, common.	25	7	22¼	21⅛	29⅛	17⅛
6.	Cosden & Co., common	..	..	27½	25⅝	62¼	22⅜
7.	General American Tank	..	†3	48	48½	71⅝	40
8.	General Asphalt	100	..	32⅛	31¼	54	23
9.	Houston Oil	100	..	51	50	78	40¾
10.	Independent Oil & Gas	10	..	4¼	*4	11¼	3⅝
11.	Indiahoma Refining	25	..	1⅝	*1½	9	1⅜
12.	Indian Refining	10	..	*5⅝	*5¼	8½	5
13.	Invincible Oil	50	..	8⅞	8⅜	19¼	7⅛
14.	Maracaibo	..	..	20¼	20⅜	22½	16
15.	Marland Oil	..	..	23½	20¼	59⅝	18⅛
16.	Mexican Seaboard	..	..	14	11⅝	19⅝	5⅜
17.	Middle States Oil	10	..	4⅜	4½	12¼	4⅜
18.	National Supply	50	6	58¾	57½	59¾	54
19.	Pacific Oil	..	†2	39⅛	37¾	48⅞	31½
20.	Pan-American, common	50	16	60	58½	93½	53
21.	Panhandle Prod. & Ref.	..	..	1½	*1	6¼	1¼
22.	Phillips Petroleum	..	†2	26⅝	23	69⅝	19⅜
23.	Pierce Oil, common	25	..	2¼	1⅜	6	1½
24.	Producers & Refiners	50	4	18⅜	18	58¼	17⅛
25.	Pure Oil Co., common	25	6	17½	17⅝	32	16¼
26.	Royal Dutch, N. Y., sh	13.40	2.62	48⅝	49½	55½	40½
27.	Shell Transport	10	x92½	32½	*34	41¼	29½
28.	Shell Union, common	..	†1	14¼	14⅜	19¼	12⅜
29.	Simms Pet.	10	..	9⅝	8⅝	16⅝	6½
30.	Sinclair Consolidated, common	..	†2	19½	17⅞	39⅝	16
31.	Skelly Oil	25	..	17	16¼	35	12⅛
32.	Standard of California	25	8	55	53	64⅛	47⅛
33.	Standard Oil of N. J.	25	4	33⅛	32⅞	44¼	30⅞
34.	Standard of New Jersey, pfd.	100	7	*117	117	118¼	114¾
35.	Superior Oil	..	..	*2	2¼	6¾	2
36.	The Texas Co.	25	12	39⅝	38¼	52⅞	34⅝
37.	Texas & Pacific Coal & Oil	10	..	7⅛	7	24⅝	5½
38.	Tide Water Oil	100	..	109	100¼	144	94
39.	Transcontinental	..	..	2¼	2	14½	1¼
40.	Union Tank, preferred	100	7	*108½	*107¼	114	106
41.	White Eagle Oil & Ref.	..	2¼	22	22	30⅝	20⅛
	Standard Oil Stocks						
42.	Anglo-American Oil	5	15	*14	14½	19¾	13½
43.	Borne Scrymser	100	12	*135	*131	153	110
44.	Buckeye Pipe Line	50	14	70	73	94	70
45.	Chesebrough Mfg., com.	100	14	*230	*225	238	205
46.	Continental Oil	25	8	*37	*37½	50	32½
47.	Crescent Pipe Line	25	..	*12½	*12	25	16
48.	Cumberland Pipe Line	100	12	112	*112	116	80
49.	Eureka Pipe Line	100	8	*87	*92	117¼	88
50.	Galena-Signal, common	100	4	60½	60¾	78	55
51.	Humble Oil & Ref.	25	4.8	*33½	34	41	28¼
52.	Illinois Pipe Line	100	16	*128	*150	171	115
53.	Imperial Oil, Ltd.	25	16	100	*99	123	92
54.	Indiana Pipe Line	50	16	*78	*83	103	81
55.	Intl. Pet., Ltd.	..	x50	15¼	14⅜	24¾	13¼
56.	Magnolia Pet.	100	4.5	131	*129	166	123
57.	National Transit	12.50	16	*20	*20½	29	19½
58.	New York Transit	100	10	*84	*91	138	86
59.	Northern Pipe Line	100	25	100½	*97	111	96
60.	Ohio Oil Co.	25	4	62½	54½	85¾	48¾
61.	Penn-Mex Fuel	25	..	*19	*19	28	10½
62.	Prairie Oil & Gas	100	8	194	185½	272	152
63.	Prairie Pipe Line	100	8	94½	*97½	117	93
64.	Solar Refining Co.	100	15	179	*173	212	161
65.	Southern Pipe Line	100	16	*80	*91	116	90½
66.	South Penn Oil	100	..	111	106	196	100
67.	South West Pa. Line	100	8	*75	78	89	66
68.	Standard of Indiana	25	10	56¼	55⅝	69⅞	49¼
69.	Standard of Kansas	25	8	*39	38½	56¼	36½
70.	Standard of Kentucky	25	16	99	95½	109½	76
71.	Standard of Nebraska	100	20	210	*200	280	186
72.	Standard Oil of N. Y.	25	5.6	41⅝	40¾	49¾	35½
73.	Standard of Ohio, common	100	10	282	273½	317	270
74.	Swan & Finch	100	..	*25	*24	38	21½
75.	Vacuum Oil	25	10	52⅜	51¼	55½	40
76.	Washington Oil	10	..	*20	*20	28	20¼
	Miscellaneous Stocks						
77.	Cities Service, banker's shares	..	‡21	..	*13¼	*13	18½	12⅜
78.	Gulf Oil Corp. of Pa.	25	6	55½	55	69¼	45¾

*Bid, no sales. †In dollars. ‡6 per cent in cash and 15 per cent stock dividend declared; now being paid in scrip. §The figures carried in this column are kept up-to-date as far as possible but are not guaranteed. xCents per share.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange weekly was as follows:

Nov. 20	45.26	Oct. 9	43.29	Aug. 28	44.18
Nov. 13	43.84	Oct. 2	43.53	Aug. 21	44.24
Nov. 6	42.60	Sept. 25	43.48	Aug. 14	43.39
Oct. 30	41.66	Sept. 18	41.43	Aug. 7	43.87
Oct. 23	42.42	Sept. 11	44.78	July 31	42.58
Oct. 16	42.80	Sept. 4	44.06	July 24	46.32

CHICAGO EDITORIAL OFFICES IN CHARGE OF RALPH T. BAKER

Ralph T. Baker, formerly staff correspondent in Oklahoma and Kansas for The Oil and Gas Journal, has been placed in charge of the editorial department of the Chicago offices of this publication at 1328 Peoples Gas Building, Chicago. Due to the increasing importance of the Chicago area in the petroleum industry, Mr. Baker was sent from the home offices in Tulsa to devote his entire time to covering thoroughly all news pertaining to the various branches of the industry, in line with the policy of The Oil and Gas Journal to have its own trained men located in the centers where news of importance to all persons connected with the oil industry develops.

Mr. Baker is especially well fitted for this work. After his graduation from college, he became associated with oil companies in the Mid-Continent territory and obtained a further practical and technical education which will be of especial benefit to him in his new duties. His work took him to a majority of the oil fields in the Mid-Continent area and this experience, with the broad insight into problems affecting the petroleum industry obtained through his work at the Tulsa headquarters of The Oil and Gas Journal, will permit him to handle news emanating from the Chicago territory in an intelligent, accurate and comprehensive manner.

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You know that it costs less than one percent of the pay-roll, or less than twenty-five cents a week per employee, but we would like to tell you whether it would be seventeen and a half cents, or twenty-one cents, or what.

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If you will but say the word we will send a representative who will help you compile the few details regarding your organization, your working quarters and your occupational hazards, if any, which we need for making such an estimate.

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Development of Pipe Line Welding

Results Noted During Year Described by Speaker at Convention of International Acetylene Association

By N. E. Wagner

I wish to inform you of some of the developments which we have made in welding work, during the past year, for the Prairie Pipe Line Co. Since last year we have laid 107 miles of 8-inch and 34 miles of 6-inch welded line. These lines were all laid as loop lines from one station to another or from one station to gate house of junction point. These loop lines ranged from 8 to 34 miles in length. In welding or laying this amount of pipe, in loop lines, the work was distributed throughout our pipe line system and carried on and developed in Missouri, Kansas, Oklahoma and Texas. Some of these lines were laid in cold weather, some in mild weather, while others were laid in extreme hot weather.

Our last loop of 17 miles of 8-inch welded line was laid in Texas during July and August of this year at which season the temperature ran from 100 to 112 in the shade nearly every day. It was necessary on this job to make a large canvas shade to fit over a quarter-inch pipe frame to protect the generator from the direct rays of the sun. It was also necessary to supply each welder with a large umbrella to shade them while welding. In all the 107 miles of 8-inch and 34 miles of 6-inch comprised seven different jobs or loops. On testing out all these lines before putting them in actual service we found only one defective weld. In my opinion, and I believe you will agree with me, this is a very good percentage of efficiency in the development of pipe line welding.

In addition to our regular pipe line welding we have, in the past year, welded approximately 3,500 feet of extra heavy pipe for discharge lines on various station grounds from pumps to manifold house. Some of these lines were 8-inch and some 6-inch while on one particular job we welded approximately 1,000 feet of 12-inch. We have also made up all "L's," "T's," and forged steel flanged connections for these jobs by the oxyacetylene process.

Special Two-Section "L"

In regard to the "L's" which we made up for these lines, I wish to call special attention to a two-section 90-degree "L" which we developed the past year. We have had some of these special "L's" in service on discharge lines, where vibration and pressure are greatest, without a single failure up to the present time. In making up this "L" we make a double "V" cut in pipe, leaving from three to four inches of pipe stock on the back side of the "L" and a center section of any desired length. We then heat the pipe where three or four inches of stock remains and bend the ends up to close the "V" cuts, which then forms a 90-degree angle. We then weld at the two points where the "V" cuts join together after bending. When these welds are completed we take a piece of ⅛"x1" flat iron and place it edgeways, or with the narrow side to the pipe, on the back side of "L" so that both ends extend over the "V" cut about three inches. We then weld this strip to the "L" on both sides which makes a reinforced finn on the back of "L." We also apply one of these strips to each side of the "L" in the same manner. Then we proceed to weld brace of ½"x2" iron or a piece of split pipe from one run of the "L" to the other. This we call our reinforced "L" for high pressure service. I believe this special reinforced "L" is of great value to any one on high pressure work or where there is much vibration. Our reason for developing this special "L" is due to the fact that we had a couple of failures on common welded two-section "L's" on our discharge lines at pump headers where pressure and vibration are greatest.

Railroad Crossings

We have also welded several lines for railroad crossings. As you will doubtless remember, I mentioned in my paper last year that it was necessary that these crossings be put in according to railroad specifications. On these jobs where new railroad beds were being built on account of double tracking it was necessary to lengthen the liner through which the main oil line runs. We figured that in these cases it would be expensive to shut down stations to cut the line in order to slip liner on pipe. Furthermore, it would have been impossible to drain line at these points from stations, which would have meant that if we did cut the line that there would have been a loss of oil, and not only that but would endanger the lives of many people on trains passing these points where oil had been spilled over the right-of-way. We then decided to split the liner pipe in halves and place same over oil line and reweld back together. This we did without any trouble or loss of oil. Also without the necessity of shutting down the stations.

We have also replaced many creek crossings the past year in different districts by welding, which seems to stand up better than screwed lines at these places. We have made repairs on a number of miles of old lines through alkali grounds and by the first of the year or sooner we figure that we will have covered and made repairs to approximately 75 miles of 8-inch lines by the use of the oxyacetylene process in welding up pit holes and replacing new sections in line.

During the past year we have installed heating systems for reclaiming lubricating oil at stations by welding hot water heaters and piping for heating lubricating oil to a high temperature before same goes to centrifugal reclaimer and filters.

We have continued to construct welded pipe buildings, the past year, by welding second hand or junk pipe. The most important have been two pump station buildings each 40'x50'; one warehouse and shop building combined with dimensions of 50'x120'; one tool house building 24'x48', and some smaller buildings for manifold houses, garages, etc.

To Weld River Line

At present we are preparing to go ahead with a job which we consider a mark in the advancement and development of pipe line welding, that of welding two lines across the South Canadian River near Pauls Valley, Okla. These lines will be of extra heavy 8-inch pipe and will be between 7,000 and 8,000 feet each in length. It has always been customary in laying pipe lines across rivers to place heavy cast iron clamps at each joint to protect the coupling if screw pipe was used, and up to the present time we have also used clamps on welded lines. We are now planning on using plain end pipe and putting on good reinforced welds with four pieces of ½"x1"x7" flat iron strips over circular weld, spacing same at quarter points on pipe so that each strip will extend about three inches on each joint from the circular weld, thus adding additional reinforcement to the weld in order to withstand any extraordinary strain which might be brought to weld in order to withstand any extraordinary strain which might be brought to bear upon pipe during the flood stage of river. These reinforced strips are applied in the same manner as on our reinforced "L's." After the three- or four-joint sections, necessary to cross the channel, are welded, we expect to pull these sections across making our tie-up welds in the same manner and lower line in the river without clamps of any kind.

The Prairie officials are now planning to order sufficient plain end rive pipe for all three lines across the North Canadian to permit laying them from the south bank of this new channel to the north bank of the old channel, thus making a complete welded job.

We have completed several new stations this year, making the majority of our connections and fitting by welding and are also supplying the oxyacetylene process in making and installing special units of various kinds on station work.

Flanged Tank Nipple

We have developed what we term a flanged tank nipple. You will understand that it is necessary to place one or more connections on storage or works tanks. On large tanks ranging from 3,000 to 55,000 barrels capacity we generally have two or three connections. It has always been customary to purchase flanged tank nipples or threaded tank flanges and use a long thread nipple to run through to the inside of tank to support swing pipe "L." The flanged tank nipple is made with any size nipple desired, generally ranging from 6 to 10 inches in diameter and 18 to 24 inches in length with tank flange riveted and caulked to nipple at about its center. The threaded pipe flange, as previously described, is used by screwing a long thread nipple through the flange. These flanges are riveted to the bank at desired points for line connections. In developing our welded flanged tank nipple we simply take a piece of flat tank iron or boiler plate and cut outside diameter for flange and then cut inside circular diameter to fit over ordinary pipe nipple 24 inches long. We weld this straight circular flange to the pipe nipple at about the center of same, welding on both sides of flange. This we find is a very cheap method of making flanged tank nipples, as well as convenient. My attention was especially called to this fact on a rush job in Texas during the past summer when our company wished to put a tank in service and had no tank nipple on hand. We immediately took a common nipple and a piece of tank iron and made one on the job in a short time, thus putting the tank into service without any delay.

We have also done considerable manifold welding at several of our stations during the past year. The most important one was a complete welded manifold at our Argo station, near Neodesha, Kans. This manifold consisted of 6-, 8-, and 12-inch headers and was a very successful job.

We have been asked several times as to whether or not oil passes through welded lines more freely than through screwed coupling lines. We have no way of determining this point but we feel more confident in crowding or forcing the welded line up to full capacity than we do the screwed line.

We have also been asked regarding the elimination of the line walker on welded lines. This company has deemed it unnecessary to use a line walker on an all-welded line when such a line is singled out by itself. There is one line of this particular distinction in service for the Prairie Pipe Line Co., which is the Mexia-Hensley 8-inch line constructed about two years ago from Mexia to Hensley, Texas, a distance of 140 miles. The other welded lines which we have laid run along the right of way with screwed lines and it being necessary to employ linewalkers to cover screw lines, in order to repair collar leaks, they naturally inspect all lines on their respective routes.

Welding Northern Line

All the above mentioned line and pipe development work has been done throughout the Southern Division of the Prairie Pipe Line Co. The Northern Division of the Prairie or the portion extending from Humbolt, Kans., to Whiting, Ind., also has taken up welding work more extensively during the past year. We have shipped three large generators with all necessary equipment from the Southern Division to the Northern Division in order for them to carry on their work.

The following letter, dated at Kansas City, Mo., from our general superintendent, C. E. McPoland, of the northern division, details some of their most important welding work during the past year:

"We have laid 23 miles of 8-inch pipe, as you know, on the northern division, one loop out of Carrollton and one out of Humboldt. The loop out of Carrollton, up to the present slow-down, was operating at 700 pounds line pressure and passed through one winter. Up to date we have never had a leak reported, or repaired a leak in this loop. This same report is true of the Humboldt loop.

"We have adopted the plan on all changes of lines through small towns and cities we pass through, in making changes to use the plain-end welded joint. In this respect we have changed seven 8-inch lines through the town of Lexington Junction, Mo., for a total of 3.3 miles and are now just completing the changing of four 8-inch lines through the city of Marceline, Mo., and will change line through the town of Bucklin, Mo., in the same way, all with welded pipe, and next year we figure on changing the four 8-inch lines through the city of Dallas, Ill., with welded pipe. In this town we have lines laid in the main street.

Welded Line Satisfactory

"This all leads up to the point that everyone connected with the pipe line end of the business believes that a welded line is the best and most satisfactory job from a leak point of view and particularly where there is a hazard from dwellings and business places which would be endangered from collar leaks and escaping oil.

"We have never laid any 12-inch plain end pipe. However, we have a small job west of Wilbern, Ill., station and have the plain 12-inch pipe on the job. At Salt Creek on account of lowering lines to an unusual depth, we replaced 1,200 feet of screw pipe in this ditch with 1,200 feet of welded pipe.

"When we have casing to extend on railroad crossings of Santa Fe and other roads where the original casings on old line were not extended to the proper distance to meet requirements, in putting on the additional casing we split the joint, welding it back as a solid joint around line and welded the end onto the present casing, making proper extension to this casing without disturbing or cutting main line, without any loss of oil or interfering with operation.

"We are using the welding of lines in all cases of breaks as far as possible which formerly were flanged and later the system was using right and left collars.

"We have been doing a number of small jobs around stations for some time, welding shields, covers and all classes of small repair parts for machinery, stairs, railings, etc. We are also welding in all short pieces of pipe around stations to

(Continued on Page 32)

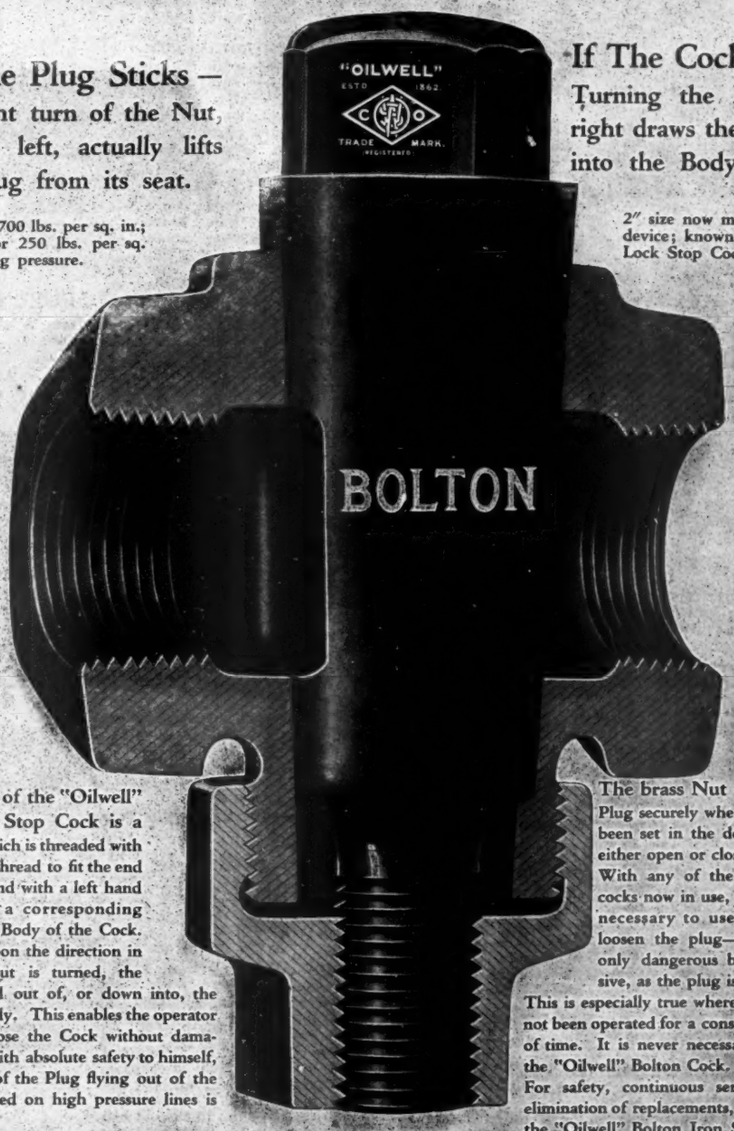
The Bottom Nut Does The Work

If The Plug Sticks —
A slight turn of the Nut, to the left, actually lifts the Plug from its seat.

Tested at 700 lbs. per sq. in.; suitable for 250 lbs. per sq. in. working pressure.

If The Cock Leaks —
Turning the Nut to the right draws the Plug down into the Body.

2″ size now made with locking device; known as the 2″ Bolton Lock Stop Cock.



The feature of the "Oilwell" Bolton Iron Stop Cock is a brass Nut, which is threaded with a right hand thread to fit the end of the Plug, and with a left hand thread to fit a corresponding thread on the Body of the Cock. Depending upon the direction in which the Nut is turned, the Plug is forced out of, or down into, the seat of the Body. This enables the operator to open or close the Cock without damaging it, and with absolute safety to himself, as all danger of the Plug flying out of the Cock when used on high pressure lines is eliminated.

The brass Nut will lock the Plug securely when the latter has been set in the desired position, either open or closed.

With any of the ordinary stop cocks now in use, it is frequently necessary to use a hammer to loosen the plug—a method not only dangerous but also expensive, as the plug is often broken. This is especially true where the cocks have not been operated for a considerable length of time. It is never necessary to hammer the "Oilwell" Bolton Cock.

For safety, continuous service, and the elimination of replacements, we recommend the "Oilwell" Bolton Iron Stop Cock.

Write for "Oilwell" Bolton Iron Stop Cock Bulletin No. 30 — or get a copy at any of our 100 BRANCHES

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World's Largest Manufacturers of Oil Field Equipment

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

CHICAGO DIST. (Based on Group 3)—	Nov. 20		Nov. 13		Nov. 6	
50-52 450 end point (Naphtha)	.05¾	.06	.05¾	.06	.06	.06¼
56-58 450 end point	.05½	.06	.05½	.06	.06	.06¼
58-60 437 end point (New Navy)	.06	.06½	.06¼	.06½	.06¼	.06½
60-62 400 end point	.07½	.07¾	.07¼	.07¾	.08	.08¼
64-66 375 end point	.08½	.09	.08½	.09	.09	.09½
68-70 360 end point	.09¾	.10¼	.10	.10½	.10¾	.11¼
OKLAHOMA (Group 3)—						
48-52 450 end point Naphtha)	.05¼	.05¾	.05¾	.06	.05¾	.06
56-58 450 end point	.06	.06¼	.06	.06¼	.06	.06¼
58-60 437 end point (New Navy)	.06½	.06½	.06½	.06½	.06¼	.06½
60-62 400 end point	.07¼	.07½	.07½	.07¾	.07¾	.08¼
64-66 375 end point	.08¼	.08½	.08½	.08¾	.08¾	.09¼
68-70 350-365 end point	.09¾	.10	.10	.10½	.10½	.10¾
KANSAS—						
58-60 437 end point (New Navy)	.06¼	.06½	.06¼	.06½	.06½	.06¾
NORTH TEXAS—						
58-52 450 end point (Naphtha)	.05¼	.05¾	.05¾	.06	.05¾	.06
50-52 440 end point (Naphtha)	.05½	.05¾	.05¾	.06¼	.05¾	.06¼
56-58 450 end point	.06	.06¼	.06	.06¼	.06	.06¼
58-60 437 end point (New Navy)	.06	.06¼	.06¼	.06½	.06¼	.06½
60-62 400 end point	.07¼	.07½	.07¼	.07½	.07¾	.08¼
64-66 390 end point	.08	.08½	.08	.08½	.08½	.08¾
64-66 375 end point	.08¼	.08½	.08¼	.08¾	.08¾	.09¼
NORTH LOUISIANA—						
56-58 450 end point	.06	.06¼	.06	.06¼	.06¼	.06½
58-60 437 end point (New Navy)	.06¼	.06½	.06¼	.06½	.06½	.06¾
64-66 400 end point	.07¾	.08	.07¾	.08	.08	.08¼
64-66 390 end point	.08¾	.09	.08½	.08¾		
ARKANSAS—						
58-60 450 end point	.06½	.06¾				
58-60 437 (New Navy)	.06¾	.07				
64-66 375 end point	.08½	.09				
ROCKY MOUNTAIN STATES—						
58-60 437 end point (New Navy)	.09½		.09½		.11¼	
PENNSYLVANIA—						
52 Naphtha	.09½		.09½		.10	
54 Naphtha	.09¾		.09¾		.10¼	
56 Gasoline	.10		.10		.10½	
58 Gasoline	.10¼		.10¼		.10¾	
60 Gasoline	.10¾		.10¾		.11½	
62 Gasoline	.11		.11		.13½	
64 Gasoline	.13		.13		.14	
66 Gasoline	.16		.16		.16½	
68-70 Gasoline	.17		.17		.17¾	

NATURAL GASOLINE

CHICAGO DIST. (Based on Group 3)—	Nov. 20		Nov. 13		Nov. 6	
Grade A, 72-78 under 375 e.p., rec. 90%	.06¼	.06¾	.06¾	.07¼	.07¼	.07½
Grade B, 76-82, 375 end point, rec. 85%	.06	.06½	.06½	.07	.07¼	.07½
Grade C, 80-88, 350 end point, rec. 78%	.05¾	.06	.06	.06½	.06¾	.07¼
OKLAHOMA (Group 3)—						
Grade A, 72-78, under 375 e.p., rec. 90%	.06¼	.06½	.06½	.06¾	.07	.07¼
Grade B, 76-82, 375 end point, rec. 85%	.06	.06¼	.06¼	.06½	.06¾	.07¼
Grade C, 80-88, 350 end point, rec. 78%	.05½	.05¾	.06	.06¼	.06½	.07
Grade D, 88-92, 350 end point	.05½	.05¾	.06	.06¼	.06½	.07
NORTH TEXAS—						
80-84 compression	.05¼	.05¾	.05¾	.06¼	.06½	.06¾
84-90 compression	.05¼	.05¾	.05¾	.06¼	.06½	.06¾
72-76 absorption	.06	.06½	.06¼	.06¾	.07	.07¼
76-82 absorption	.06	.06½	.06¼	.06¾	.07	.07¼
NORTH LOUISIANA—						
Grade B	.06	.06¼	.07			
Grade C	.05¾	.06	.06¾			

MOTOR NATURAL GASOLINE (BLEND)

CHICAGO DIST. (Based on Group 3)—	Nov. 20		Nov. 13		Nov. 6	
56-62 437 end point	.06	.06¼				
60-62 450 end point	.06	.06¼	.06¼	.06½	.06¾	.07
64-66 450 end point	.06	.06¼	.06¼	.06½	.06¾	.07
OKLAHOMA (Group 3)—						
60-62 450 end point	.05¾	.06	.06	.06¼	.06	.06¼
64-66 437 end point	.06	.06¼	.06¼	.06½		
68-70 430-435 end point	.06	.06¼	.06¼	.06½	.06½	.06¾
NORTH TEXAS—						
58-62 440 end point	.06	.06⅛	.06	.06⅛	.06	.06⅛
58-60 450 end point	.06	.06⅛	.06	.06⅛	.06	.06⅛
PENNSYLVANIA—						
*60-62	.10		.10		.10½	
*64-66	.10		.10		.10½	
*66 68	.10		.10		.10½	
*68-70	.10		.10		.10½	

*At Sistersville, W. Va.

BURNING OIL

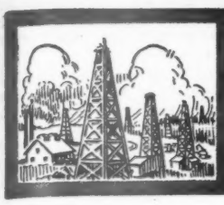
CHICAGO DIST. (Based on Group 3)—	Nov. 20		Nov. 13		Nov. 6	
41-43 water white Kerosene	.04¼	.04½	.04	.04¼	.04	.04¼
42-44 water white Kerosene	.04½	.04¾	.04¼	.04½	.04¼	.04½
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04¼	.04½	.04½	.04¼	.04	.04¼
42-43 water white Kerosene	.04½	.04¾	.04¾	.04¾	.04¼	.04½
44-46 Kerosene Distillate	.04¼	.05½	.05¼	.05½	.05¼	.05½
KANSAS—						
41-43 water white Kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
NORTH TEXAS—						
41-43 water white Kerosene	.04¼	.04½	.03¾	.04	.03¾	.04
41-43 prime white Kerosene	.04	.04¼	.03½	.03⅝	.03½	.03⅝
40-42 prime white Distillate	.03¾	.04	.03¼	.03½	.03¼	.03½
42-44 water white Kerosene	.04½	.04¾	.03¾	.04	.03¾	.04
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04½	.04¾	.04½	.04¾	.04¼	.04½
42-43 water white Kerosene	.04¾	.05	.04½	.04¾	.04¼	.04½
ARKANSAS—						
41-43 water white Kerosene	.04½	.04¾				
42-44 water white Kerosene	.04¼	.05				
ROCKY MOUNTAIN STATES—						
40-42 prime white Kerosene	.07		.07		.06¾	
PENNSYLVANIA—						
43 Kerosene prime white	.06¾		.06¾		.07	
45 Kerosene water white	.07		.07		.07¼	.07½
46 Kerosene water white	.07¾		.07¾		.07¾	.08
47 Kerosene water white	.08		.08		.08½	
36 Miners' Neutral	.07		.07		.07	

FUEL OILS

CHICAGO DIST. (Based on Group 3)—	Nov. 20		Nov. 13		Nov. 6	
24-26 Fuel Oil (sellers' cars, Group 3)	.70	.75	.70	.75	.75	.80
22-24 (El Dorado)	.60	.65	.65	.70	.72½	.77½
18-20 (Smackover)	.57½	.62½	.60	.65	.60	.65
32-36 Gas Oil	.02⅛	.02⅜	.02⅛	.02⅜	.02¼	.02½
38-40 Straw distillate	.03⅛	.03½	.03¼	.03½	.03¼	.03½
KANSAS—						
24-26 Fuel Oil	.85	.90	.85	.90	1.00	1.05
32-36 Gas Oil	.02½	.02¾	.02½	.02¾	.02⅝	.02¾
38-40 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03⅝
OKLAHOMA (Group 3)—						
24-26 Fuel Oil (buyers' cars)	.65	.70	.65	.70	.72½	.77½
24-26 Fuel Oil (sellers' cars)	.70	.75	.70	.75	.77½	.82½
28-30 Fuel Oil (sellers' cars)	.80	.85	.80	.85	.85	.90
32-36 Gas Oil	.02¼	.02½	.02¼	.02½	.02¼	.0.½
38-40 Straw Distillate	.03	.03¼	.03	.03¼	.03	.03¼
NORTH TEXAS—						
24-26 Fuel Oil	.60	.65	.60	.65	.60	.65
26-30 Fuel Oil	.65	.70	.65	.70	.65	.70
32-36 Gas Oil	.02¼	.02¾	.02¼	.02¾	.02¼	.02⅝
36-38 Gas Oil	.02½	.02⅝	.02½	.02⅝	.02½	.02⅝
38-40 Straw Distillate	.02⅞	.03⅛	.02⅞	.03⅛	.02⅞	.03⅛
NORTH LOUISIANA—						
20-22 Fuel Oil	.65	.70	.65	.70	.70	.75
32-36 Gas Oil	.02½	.02¾	.02¾	.03	.02¾	.03
38-40 light straw distillate	.03		.03		.03	
ARKANSAS—						
38-40 Distillate	.03	.03¼				
32-36 Gas Oil	.02½	.02¾				
22-26 Refinery Fuel Oil	.60	.70				
GULF COAST (South Texas)—						
Gas oil	.02¾	.03¼	.03	.03½	.03	.03½
Fuel oil	1.10	1.15	1.10	1.15	1.10	1.15
PENNSYLVANIA—						
30-34 Fuel Oil	.05¼		.05¼		.05¼	
36-40 Fuel Oil	.05½		.05½		.05¾	
34 Neutral	.08		.08		.08	

NEUTRAL OILS

OKLAHOMA (Group 3)—	Nov. 20		Nov. 13		Nov. 6	
Pale Neutrals:						
70-80 vis., 2½ color, 20-25 cold test	.04	.04¼	.04	.04¼	.04	.04¼
100 vis., 2 color, 20-25 cold test	.05	.05½	.05	.05½	.05¾	.06¼
100 vis., 3 color, 20-25 cold test	.04¾	.05	.04¾	.05	.05¼	.05¾
150 vis., 3 color, 20-25 cold test	.09½	.10	.09½	.10	.11¼	.11¾
150 vis., 4 color, 20-25 cold test	.09	.09½	.09	.09½	.10¾	.11¼
180 vis., 4 color, 23-28 cold test	.11¼	.11¾	.11¼	.11¾	.13	.13½
180 vis., 3 color, 23-28 cold test	.12	.12½	.12	.12½	.13¾	.14¼
200 vis., 3 color, 23-28 cold test	.13	.13½	.13	.13½	.14¾	.15¼
200 vis., 4 color, 23-28 cold test	.12¼	.12¾	.12¼	.12¾	.14	.14½
200 vis., 3 color, 25-30 cold test	.14	.14½	.14	.14½	.15¾	.16¼
220 vis., 4 color, 25-30 cold test	.13¼	.13¾	.13¼	.13¾	.15	.15½
240 vis., 3 color, 25-30 cold test	.15	.15½	.15	.15½	.17	.17½
240 vis., 4 color, 25-30 cold test	.14¼	.14¾	.14¼	.14¾	.16	.16½
280 vis., 3 color, 25-30 cold test	.17½	.18	.17½	.18	.19¼	.19¾
280 vis., 4 color, 25-30 cold test	.16½	.17	.16½	.17	.18¼	.18¾
300 vis., 3 color, 25-30 cold test	.18	.18½	.18	.18½	.19¾	.20¼
Red Neutrals:						
180 vis., 5 color, 23-28 cold test	.10½	.11	.10½	.11	.12¼	.12¾
180 vis., 6 color, 23-28 cold test	.09¾	.10¼	.09¾	.10¼	.11½	.12
200 vis., 5 color, 23-28 cold test	.11½	.12	.11½	.12	.13¼	.13¾
200 vis., 6 color, 23-28 cold test	.10¾	.11¼	.10¾	.11¼	.12½	.13
220 vis., 5 color, 25-30 cold test	.12½	.13	.12½	.13	.14¼	.14¾
220 vis., 6 color, 25-30 cold test	.11¾	.12½	.11¾	.12½	.13½	.14¼
240 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.15¼	.15¾
240 vis., 6 color, 25-30 cold test	.12¾	.13¼	.12¾	.13¼	.14½	.15
280 vis., 5 color, 25-30 cold test	.15½	.16	.15½	.16	.17¼	.17¾
280 vis., 6 color, 25-30 cold test	.14½	.15	.14½	.15	.16¼	.16¾
300 vis., 5 color, 25-30 cold test	.14½	.15	.14½	.15	.16¼	.16¾
150-160 vis., 1 color, 40-50 cold test	.04½	.05	.04½	.05	.06¼	.06¾
190-200 dark green, 40-50 cold test	.03½	.40	.03½	.04	.05¼	.05¾
600 steam refined	.16		.16		.16	
590-600 Bright Stock	.23	.26	.23	.26	.25	
600-610 Bright Stock	.28	.31	.28	.31	.28	
Waxes:						
124-126 White Crude Scale Wax	.02¾	.03	.02¾	.02⅞	.02¾	.02¾



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

PENNSYLVANIA—	Nov. 20	Nov. 13	Nov. 6
150, 3 color	.21	.21	.21
180, 3 color	.23½	.23½	.23¾
200, 3 color	.25	.25	.25¾
220, 3 color	.28	.28	.28¾
600, steam refined	.11½	.11	.10¾
635, steam refined	.14	.13	.13
650, steam refined	.15	.14½	.14½
600, Pennsylvania flash	.17	.16½	.16
630, Pennsylvania flash	.21	.20½	.20½
*550, E filtered	.14	.14	.14
*600, E filtered	.16¼	.16¼	.16
600, E filtered	.15	.15	.14¼
600, D filtered	.21	.21	.20½
550, E filtered	.13½	.13½	.13½
550, D filtered	.16	.16	.16
Pennsylvania Bright Stock	.31½	.31½	.31½
†122-124 White Crude Scale Wax	.03¼	.03¼	.03¼
†124-126 White Crude Scale Wax	.03⅜	.03⅜	.03⅜
300 Mineral Seal	.07¾	.07¾	.07¾

*At Warren, Penn. †At New York City.

GULF COAST (South Texas)—	Nov. 20		Nov. 13		Nov. 6	
Lubricating Stocks:						
Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.09	.10	.08½	.09½	.08½	.09½
No. 2½ color, 150 vis., pale oil	.10	.11	.10	.11	.10	.11
No. 3 color, 200 vis., pale oil	.11	.12½	.11	.12	.11	.12
No. 3½ color, 300 vis., pale oil	.14	.15	.14	.15	.14	.15
No. 3½ color, 500 vis., pale oil	.16	.17	.15	.16	.15½	.16
No. 3½ color, 750 vis., pale oil	.21	.23	.21	.23	.21½	.23
No. 1½ color, 150 vis., pale, filtered	.21	.22½	.21	.22½	.21	.22
No. 2 color, 200 vis., pale, filtered	.24	.25	.24	.25	.24	.25
No. 3½ color, 500 vis., pale, filtered	.32	.33	.32	.33	.31	.33
No. 3½ color, 750 vis., pale, filtered	.38	.40	.38	.40	.39	.40
No. 5 color, 200 vis., red oil	.10	.11	.10	.11	.10	.11
No. 5 color, 300 vis., red oil	.11½	.12½	.11½	.12½	.12	.13
No. 5 color, 500 vis., red oil	.13½	.14½	.13	.14	.13½	.14½
No. 5 color, 750 vis., red oil	.20	.21	.20	.21	.20	.21½

NEW YORK DOMESTIC MARKET

	Nov. 20	Nov. 13	Nov. 6
Motor Gasoline:			
Greater New York, in steel barrels	.15½	.15½	.16½
New York State (outside Greater New York and New England, tank wagon	.15½	.15½	.16½
New Jersey, tank wagon	.15½	.15½	.16½
V.M.P. Naphtha, in steel barrels	.14½	.14½	.15½
Kerosene:			
Greater New York, tank wagon	.15	.15	.14
New York State (outside Greater New York and New England, tank wagon	.15	.15	.14
Gasoline in bulk, delivered at N. Y.	.09½	.09½	.09½
New Jersey, tank wagon	.14	.14	.13
Lubricating Oil (Industrial) at refinery, Bayonne, N. J.:			
Cylinder, extra light filtered, in barrels	.36½	.36½	.36½
Cylinder, light filtered, in barrels	.31½	.31½	.31½
Cylinder, Bright Stock	.44	.44	.44
Cylinder, steam refined (600)	.21½	.21½	.21½
Black, in bulk	.09½	.09½	.09½
Bloomless, white, 30-31 gravity, 170 vis.	.43	.43	.43
Bloomless, 885 specific gravity	.16½	.16½	.16½
Red Paraffin:			
170 viscosity	.18½	.18½	.18½
212 viscosity	.20	.20	.20
265 viscosity	.22	.22	.22
295 viscosity	.25	.25	.25
Paraffin, 903 specific gravity	.22½	.22½	.22½
*Fuel Oil:			
Bunker Oil, 14 plus, delivered in barges, bbl.	1.45	1.45	1.45
Diesel Oil, at refinery, gallon	.03¾	.03¾	.03¾
Furnace oil, tank wagon, gallon	.10	.10	.10
Gas Oil, delivered in New York	.04¼	.04¼	.04¼
Wax, fully refined:			
120-122 a.m.p.	.03⅜	.03⅜	.03⅜
125-127 a.m.p.	.03¾	.03¾	.03⅜
130-132 a.m.p.	.04¼	.04¼	.04¼
135-137 a.m.p.	.05¼	.05¼	.05¼

*Lighterage, 6.5c a barrel extra.

NEW YORK EXPORT PRICES

	Nov. 20	Nov. 13	Nov. 6
Motor Gasoline, in cases, gallon	.24.15	.24.15	.25.15
Motor Gasoline, U. S. Navy, spec., gallon	.10.50	.10.50	.11.50
Naphtha, 60° F., 59-61 spec. grav.	.12.00	.12.00	.12.50
Naphtha, 60° F., 63-66 spec. grav.	.14.00	.14.00	.14.50
Naphtha, 60° F., 66-68 spec. grav.	.15.50	.15.50	.16.00
Kerosene:			
Standard white, in bulk, gallon	.07	.07	.07
Standard white, in barrels, gallon	.14	.14	.14
Standard white, in cases, gallon	.16.9	.16.9	.16.9
Water white, in bulk, gallon	.08	.08	.08
Water white, in barrels, gallon	.15	.15	.15
Water white, in cases, gallon	.17.9	.17.9	.17.9

CRUDE OIL PRICES

November 13.—Joseph Seep Purchasing Agency reduced all grades of Pennsylvania crudes 15 cents. Cabell crude was reduced 15 cents and Somerset light and medium crudes 10 cents.

November 14.—Joseph Seep Purchasing Agency reduced Corning crude 20 cents.

November 15.—Standard Oil Co. of Louisiana reduced Caddo, Homer, Haynesville, El Dorado, Bull Bayou and De Soto crudes from 10 to 25 cents with the exception of Caddo below 32° and Homer below 31°, which were unchanged.

November 16.—The Texas Co. announced that it would purchase all oil in storage and would absorb all storage charges provided the sale was made within 10 days.

November 19.—Magnolia Petroleum Co. advanced Corsicana light (Powell) crude 25 cents. The same company on October 30 reduced this crude 25 cents. Change at that time was not met by all major purchasing companies and resulted in the return to the posted price of $1.

November 20.—Lance Creek and Osage crudes advanced 10 cents.

Oklahoma and Kansas

Below 33°	$ .75
33° to 39.9°	1.00
40° and above	1.25
Magnolia Petroleum Co.:	
Below 28°	.40
28° to 30.9°	.60
31° to 32.9°	.75

Arkansas and North Louisiana

Caddo, 38° and above	$1.10
35° to 37.9°	1.00
32° to 34.9°	.90
Below 32°	.75
Homer, 35° and above	1.10
33° to 34.9°	1.00
31° to 32.9°	.90
Below 31°	.75
Haynesville, 33° and above	1.00
Below 33°	.90
El Dorado, 33° and above	1.10
Below 33°	1.00
Bull Bayou, 38° and above	1.05
35° to 37.9°	.90
32° to 34.9°	.75
De Soto	1.10
Crichton	.90
Bellevue	.75
Smackover, 26° and above	.75
25° to 25.9°	.60
24° to 24.9°	.50
Below 24°	.40
*Stephens, Ark., 30° and above	.85
28° to 29.9°	.80
26° to 27.9°	.75
23° to 25.9°	.65
Below 23°	.50

*Posted by Atlantic Oil Prod. Co.

Wyoming and Montana

Rock Creek (Wyo.)	$ .60
Salt Creek	.60
Big Muddy	.45
Mule Creek	.45
Grass Creek	.95
Elk Basin	.95
Lance Creek	.90
Osage	.90
Cat Creek (Mont.)	.95
Sunburst (Mont.)	.70
Greybull and Torchlight	.95
Hamilton Dome	.52½
Lander and Lost Soldier based on contracts covering entire production of fields	

North Texas and North Central Texas

Corsicana light	$1.00
Corsicana heavy	.40
Mexia	1.00
Currie	1.00
Powell	1.00
Moran, Burkburnett, Electra, Archer County, Stephens County, Strawn, Ranger, Desdemona, Pioneer and Young County.	
Below 33°	$ .75
33° to 39.9°	1.00
40° and above	1.25
Humble Oil and Refining Co.:	
Below 30°	.80
32° to 32.9°	.90
33° to 35.9°	1.00
36° to 38.8°	1.15
39° and above	1.30
Magnolia Petroleum Co.:	
Below 28°	.40
28° to 30.9°	.60
31° to 32.9°	.75
33° to 39.9°	1.00
40° and above	1.25

Gulf Coast

Gulf Pipe Line Co., Goose Creek, Hull, Sour Lake, Batson, Saratoga, Spindletop, Orange, Vinton, Edgerly, Jennings	$1.00
Grade "B," Pierce Junction, Blue Ridge	.90
The Sun Pipe Line Co., Grade "A," Humble, Hull, Goose Creek, Orange, Spindletop, Saratoga, Batson, Dayton, Sour Lake	1.00
Humble Pipe Line Co., Goose Creek, Hull, West Columbia, Orange	1.00
Grade "B," Pierce Junction	.90
Texas Pipe Line Co., Humble, West Columbia, Orange, Sour Lake, Saratoga, Batson, Vinton, Jennings, Markham	1.00
Sinclair Pipe Line Co., West Columbia, Damon Mound	1.00

California

14° to 19.9°	$ .60
20° to 20.9°	.61
21° to 21.9°	.62
22° to 22.9°	.63
23° to 23.9°	.64
24° to 24.9°	.65
25° to 25.9°	.66
26° to 26.9°	.67
27° to 27.9°	.68
28° to 28.9°	.69
29° to 29.9°	.70
30° to 30.9°	.71
31° to 31.9°	.72
32° to 32.9°	.73
33° to 33.9°	.74
34° to 34.9°	.75
35° gravity and above	.76

Eastern States

Penna Grade Oil in New York Transit Lines	$2.60
Bradford District Oil in National Transit Lines	2.60
Penna Grade Oil in National Transit Lines	2.35
Penna Grade Oil in South West Pa. Pipe Lines	2.35
Penna Grade Oil in Eureka Pipe Line Lines	2.35
Penna Grade Oil in Buckeye Pipe Line Lines	2.35
Corning Grade Oil in Buckeye Pipe Line Lines	1.25
Cabell Grade Oil in Eureka Pipe Line Lines	1.20
*Somerset Medium Oil in Cumberland Pipe Line Lines	1.15
*Somerset Light Oil in Cumberland Pipe Line Lines	1.25
Ragland Grade Oil in Cumberland Pipe Line Lines	.75
Lima	1.43
Wooster	1.25
Illinois	1.22
Indiana	1.23
Princeton	1.22
Plymouth	.60
Waterloo	.70
†Petrolia, Canada	2.03
†Oil Springs, Canada	2.10

*Somerset oil commands 6 cents over the above posted price.

†Plus Government bounty of 52½c.

Mexican Crude

*Tuxpam (f.o.b. Mexican ports)	$ .80
†Panuco (f.o.b. Mexican ports)	.50
Tuxpam (New York)	1.34
Panuco (New York)	.92

*Plus 29.38c tax. †Plus 16.50c tax. Prices based on contracts.

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, Nov. 20

STANDARD OIL CO. (INDIANA)

Main Service Station Price

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
Chicago district	12.0	..	14.0	10.0

Tank wagon prices on Jan. 25, 1921, down 2c on g., 3c on k., Feb. 1, both down 2c; April 28, both down 3c; July 25 g. down 2c; Oct. 15, g. up 1c; Oct. 23, k. up 1c; Nov. 9, g. up 1¼c; k. 1c; April 10, 1922, g. up 1½c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c; k. down 1c; Oct. 10, g. down 2c; Oct. 31, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14 g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c.

Decatur, Ill.	12.2	..	14.2	10.5
East St. Louis.	11.1	..	13.35	9.6
Joliet	12.4	..	14.4	10.7
Peoria	12.2	..	14.2	10.5
Quincy	12.2	..	14.2	10.3
Davenport, Ia.	12.5	..	14.5	10.9
Des Moines	12.5	..	14.5	10.9
Keokuk	12.5	..	14.5	10.9
Sioux City	12.1	..	14.1	10.5
Duluth, Minn.	13.2	..	15.2	11.6
Minneapolis	12.9	..	14.9	11.0
La Crosse, Wis.	13.2	..	15.2	11.4
Milwaukee	12.0	..	14.0	10.2
Madison	12.3	..	14.3	10.5
Detroit, Mich.	10.8	..	12.8	11.2
Grand Rapids	12.7	..	14.7	11.1
Saginaw	12.9	..	14.9	11.3
Evansville, Ind.	14.0	..	16.0	10.5
Fort Wayne	14.4	2.0	16.4	10.9
Indianapolis	14.2	2.0	16.2	10.7
South Bend	14.9	2.0	16.4	10.9
Fargo, N. D.	15.9	1.0	17.9	13.6
Huron, S. D.	16.0	2.0	18.0	12.1
Sioux Falls	15.5	2.0	17.5	11.6
*Kansas City	11.9	1.0	13.9	9.3
Springfield	11.8	..	13.8	10.2
*St. Louis	11.6	.5	13.9	10.0
*St. Joseph	12.3	.5	14.3	10.2
Wichita, Kans.	11.8	..	13.8	9.8

*City tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
Pittsburgh, Pa.	15.0	*	20.0	14.0
Philadelphia	15.0	*	20.0	14.0
Scranton	15.0	*	20.0	14.0
Allentown	15.0	*	20.0	14.0
Altoona	15.0	*	20.0	14.0
Dover, Del.	16.0	1.0	19.0	14.0
Wilmington	16.0	1.0	19.0	14.0
Providence, R. I.	16.5	..	19.0	14.0
Springfield, Mass	15.5	..	18.0	14.0
Worcester	15.5	..	18.0	14.0
Boston	14.5	..	17.0	15.0
Hartford, Conn.	17.5	1.0	20.0	14.0
New Haven	17.5	1.0	20.0	14.0

*Pennsylvania tax of 2 cents and Connecticut tax of 1 cent are collected by the dealer and paid by him direct to the State.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
Atlanta, Ga.	16.0	3.0	18.0	14.0
Augusta	18.0	3.0	20.0	15.0
Macon	18.0	3.0	20.0	15.5
Savannah	16.0	3.0	18.0	14.0
Birmingham, Ala.	16.0	2.0	18.0	15.5
Mobile	16.0	2.0	17.0	13.5
Montgomery	16.0	2.0	18.0	16.0
Clarksdale, Miss	14.0	1.0	16.0	14.0
Jackson	14.0	1.0	16.0	12.0
Natchez	13.5	1.0	15.5	13.5
Vicksburg	13.5	1.0	15.5	13.5
Jacksonville, Fla	16.0	3.0	18.0	14.0
Miami	18.0	3.0	20.0	15.5
Pensacola	16.0	3.0	18.0	14.5
Tampa	16.0	3.0	18.0	14.0
Covington, Ky.	16.0	1.0	18.0	13.0
Lexington	15.0	1.0	17.0	14.0
Louisville	14.0	1.0	16.0	13.0

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
Denver, Colo.	13.0	2.0	15.0	12.5
Glenwood Spgs.	20.0	2.0	....	16.5
Pueblo	16.0	2.0	18.0	12.5
Basin, Wyo.	16.0	1.0	....	13 0
Casper	14.0	1.0	16.0	11.0
Cheyenne	15.5	1.0	17.5	13.0
Cody	17.0	1.0	....	14.0
Lander	16.0	1.0	....	13.0
Billings, Mont.	18.5	2.0	20.5	14.5
Butte	20.0	2.0	22.0	16.0
Great Falls	20.0	2.0	22.0	16.0
Helena	20.0	2.0	22.0	16.0
Miles City	19.5	2.0	21.5	15.5
Boise, Idaho	20.0	3.0	22.0	18.0
Salt Lake, Utah	19.0	2.5	21.0	15.5
Ogden	19.0	2.5	21.0	15.5
Albuquerque, N. M.	18.0	1.0	20.0	15.5

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
Newark, N. J.	15.5	..	....	14.0
Atlantic City	15.5	..	....	14.0
Annapolis, Md.	16.0	1.0	19.0	14.0
Baltimore	16.0	1.0	19.0	13.0
Cumberland	16.0	1.0	19.0	15.0
Washington, D. C.	15.0	..	18.0	13.5
Norfolk, Va.	18.0	3.0	20.0	13.0
Petersburg	18.0	3.0	20.0	14.5
Danville	18.0	3.0	20.0	15.5
Richmond	18.0	3.0	20.0	13.5
Roanoke	18.0	3.0	20.0	15.0
Keyser, W. Va.	17.0	2.0	....	15.0
Charleston	17.0	2.0	....	13.5
Parkersburg	17.0	2.0	....	12.0
Wheeling	17.0	2.0	....	13.5
Charlotte, N. C.	18.0	3.0	....	14.5
Hickory	18.0	3.0	....	15.0
Mt. Airy	18.0	3.0	....	14.5
Salisbury	18.0	3.0	....	15.0
Charleston, S. C.	18.0	3.0	....	12.5
Columbia, S. C.	18.0	3.0	20.0	14.5

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
Dallas, Tex.	7.0	1.0	10.0	8.0
Fort Worth	7.0	1.0	9.0	10.0
Houston	14.0	1.0	18.0	11.0
San Antonio	7.0	1.0	10.0	9.0
El Paso	12.0	1.0	15.0	12.0
Muskogee, Okla.	12.0	1.0	15.0	9.0
Oklahoma City.	12.0	1.0	15.0	9.0
Tulsa	11.0	1.0	14.0	9.0
Ft. Smith, Ark.	15.0	3.0	18.0	12.0
Little Rock	15.0	3.0	18.0	13.0
Texarkana	15.0	3.0	18.0	12.0

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
New Orleans, La	12.5	1.0	14.5	12.0
Alexandria	13.5	1.0	15.5	13.0
Baton Rouge	12.0	1.0	14.0	11.5
Lake Charles	13.5	1.0	15.5	13.0
Shreveport	13.5	1.0	15.5	13.0
Memphis, Tenn.	15.5	2.0	17.0	14.0
Chattanooga	15.5	2.0	17.5	14.5
Knoxville	16.5	2.0	18.5	15.0
Nashville	15.5	2.0	17.5	14.0
Bristol	17.0	2.0	19.0	15.5
Little Rock Ark	16.5	3.0	18.5	13.0
West Helena	16.5	3.0	18.5	13.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
Albany, N. Y.	15.5	..	18.5	15.0
*New York	15.5	..	18.0	15.0
Buffalo	14.5	..	17.5	15.0
Rochester	14.5	..	17.0	14.0
Syracuse	14.0	..	16.0	12.0
Boston, Mass.	14.5	..	17.0	15.0
Providence, R. I.	15.5	..	10.0	15.0
Augusta, Me.	15.5	1.0	20.0	15.0
Manchester	15.5	1.0	20.4	15.0
Burlington, Vt.	15.5	1.0	20.0	15.0

*Price in steel barrels.

OHIO

Standard Oil Co. (Ohio)

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
All Ohio points.	16.0	..	18.0	13.0

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
San Francisco	12.0	2.0	16.0	15.5
Los Angeles	12.0	2.0	15 0	15.5
Fresno	13.5	2.0	16.5	17.5
Reno, Nev.	16.5	2.0	19.5	19.0
Portland, Ore.	15.0	3.0	18.0	16.5
Seattle, Wash.	13.0	1.0	16.0	16.5
Tacoma	13.0	1.0	16.0	16.5
Spokane	17.0	1.0	20.0	16.5
Phoenix, Ariz.	19.0	3.0	22.0	21.5
Honolulu, H.	13.5	..	16.5	17.5
Juneau, Alaska	14.5	..	17.5	18.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline: Tank wagon	Gasoline: Incldg tax	Gasoline: Service of station	Kero. Tank wagon
Omaha	12.25	..	14.25	10.5
Crawford	13.0	..	.....	11.25
McCook	13.75	..	15.75	12.0
Norfolk	12.75	..	14.75	11.00
North Platte	13.75	..	15.75	11.75
Scotts Bluff	13.25	..	15.25	11.25

TANK WAGON CHANGES

Effective November 13, Magnolia Petroleum Co. reduced the service station price of gasoline at Muskogee, Okla. 1 cent. Standard of Louisiana advanced the gasoline and kerosene tank wagon prices 1 cent in entire territory. Standard Oil Co. of Kentucky reduced the kerosene tank wagon price 1 cent at Atlanta, Ga. and Mobile, Ala. Same company advanced kerosene price 1 cent at Jackson, Miss.

Effective November 14, the Magnolia Petroleum Co. advanced the kerosene tank wagon market 1 cent in Arkansas.

Effective November 20, Atlantic Refining Co. reduced the gasoline tank wagon price 1 cent in Pennsylvania and Delaware.

PIPE LINE WELDING DEVELOPMENT DESCRIBED

(Continued from Page 28)

full joints, welding up pitted pipe.

"In a recent connection job in making up a large connection of field tanks at Humboldt Station, where we have a large delivery system from Argo Station and a large suction system at Humbolt Station, we practically eliminated all screw and flanged fittings formerly used, by welding all branches and lines to tanks. In other words, every day brings forth some new and particular job where welding is practical and economical. On our pumping units we build up shafts, pistons, etc., turning them down and making them as good as the original part. In other words, we are doing what you are doing on the southern division, but not possibly on as large a scale.

"We are also figuring on having a man who is capable of making a first-class weld at each station along the line, tour men working at the station who will make a good, first-class man for repairing leaks and breaks east and west of station, and we can use this man on work of this kind. When not employed on repair work and doing work of this kind, he will be a regular employe at the station.

"Everything seems to be working out fine. We are building up our organization and have a number of men who are foremen or assistant foremen who have taken a great interest in their work who can handle a generator and make a first-class weld."

From this letter of Mr. McPoland's you will note that the Prairie Pipe Line Co. has also made many developments in the northern division during the past year.

Other Companies Active

In addition to welded pipe line work developed by the Prairie Pipe Line Co., I wish to inform you of some of the most important welded line work which has been done by other companies.

I am informed that the Midwest Refining Co. has laid two 3-inch gasoline lines from Salt Creek to Casper, Wyo. One of these lines was laid in 1917 and the other in 1922. These lines have never given any trouble and are the only lines in the Salt Creek Field that did not break during the flood of six weeks ago.

The Mid-West company has just completed 42 miles of 10-inch welded line. Although this line broke during the flood period the break was due to the pipe bending to such an angle that the pipe buckled.

I have also been informed by officials of the Sinclair Pipe Line Co. that they have developed more pipe line welding during the past year. They have welded river crossings, built welded manifolds, used the oxy-acetylene process to good welded connections on new stations and advantages on various kinds of work in connection with pipe line construction, all with good success.

The Gypsy Oil Co. and the Gulf Pipe Line Co., operating in the Mid-Continent Field, are very much interested in the oxy-acetylene process of welding.

These companies have, in the past year, laid 15½ miles of 6-inch welded oil-carrying line, using the same system as adopted by the Prairie Pipe Line Co. This work progressed successfully and the line tested out without any leaks and proved to be a very satisfactory job.

They have also done considerable welding work in the past few years in constructing gasoline plants and vacuum lines. In making scrubber tanks, for gasoline plants, they use the barrel of old discarded boilers by welding heads in same and welding on all necessary connections. These tanks are then connected to plant lines for service, giving just as good service as new tanks purchased for that purpose.
duction on the lay cost.

In making repairs to broken oil lines laid over ordinary right-of-way and more especially in river beds we have been very successful in completing such repairs by the oxy-acetylene process, which is a cheaper and quicker process than the old method of using flanges, cutting threads, or using right and left nipples. If the line break should be in a river bed or place where there is much excavating to be done we simply dig a hole down to break large enough for welder to work in and then go ahead with cuts and weld in new pipe of desired length. In making a repair of the same nature by using the old method of screw flanges or nipples it would be necessary to do much more excavating which would require additional time and labor.

Upon the completion of some of our welded line this past year the Prairie officials were very anxious to start transporting oil at once. We, therefore, eliminated the water, test on a couple of jobs and turned the oil into line as soon as completed, building up the average pumping pressure and transporting oil through line without the delay of making water test. This point brings out the fact that our officials are satisfied that the welded line is a success and also speaks highly for the efficient work of the welder. Another interesting point here is the saving made in eliminating the water test, which is very expensive on account of the scarcity of water at times, thereby requiring additional equipment and time to secure the necessary amount of water to make the test.

OIL MOTORSHIP HAS GREAT SUPERIORITY

Less than a year ago, says Motorship, the United Fruit Co. of Boston took a bold step in the ordering of three sister motorships for its banana and passenger-carrying service. Previous to this order it had been operating its new turbo-electric steamer "San Benito." Not only are its latest vessels the first of their type and power to have a Diesel-electric drive, but the 3,000 shaft horsepower oil engine plant in each boat itself is of an entirely new design. There is a possibility of this step proving to be a great stride in the development of economical merchant ship propulsion, and regardless of the high first cost and of considerable engineering opposition there is much interest at the moment in Diesel-electric drive.

The "La Playa" makes a remarkably fine comparison with her sister turbin-electric ship "San Benito," which has the same dimensions except a foot less beam, the new motorship carries 29 per cent more bananas than the "San Benito" at a little better speed on 13½ tons of fuel per day compared with 31 to 32 tons. She carries 26.7 per cent more bananas than two other sister steamers with reciprocating engines belonging to the same line. The Diesel-electric drive occupies 20 frame spaces as against 29 frame spaces or a gain of 22 feet 6 inches turned over to cargo capacity.

ALL things considered, there is no saving in shopping for price. An occasional saving of split fractions is more than offset by the time, energy and delay of sending numerous inquiries and comparing quotations.

The big majority of Taxman customers have ceased sending inquiries. They have found that based on the average they get the benefit of every market break, that their contracts are equitable, that the supply is dependable to meet their requirements.

And it goes without saying, that these customers are generally the most successful in their business.

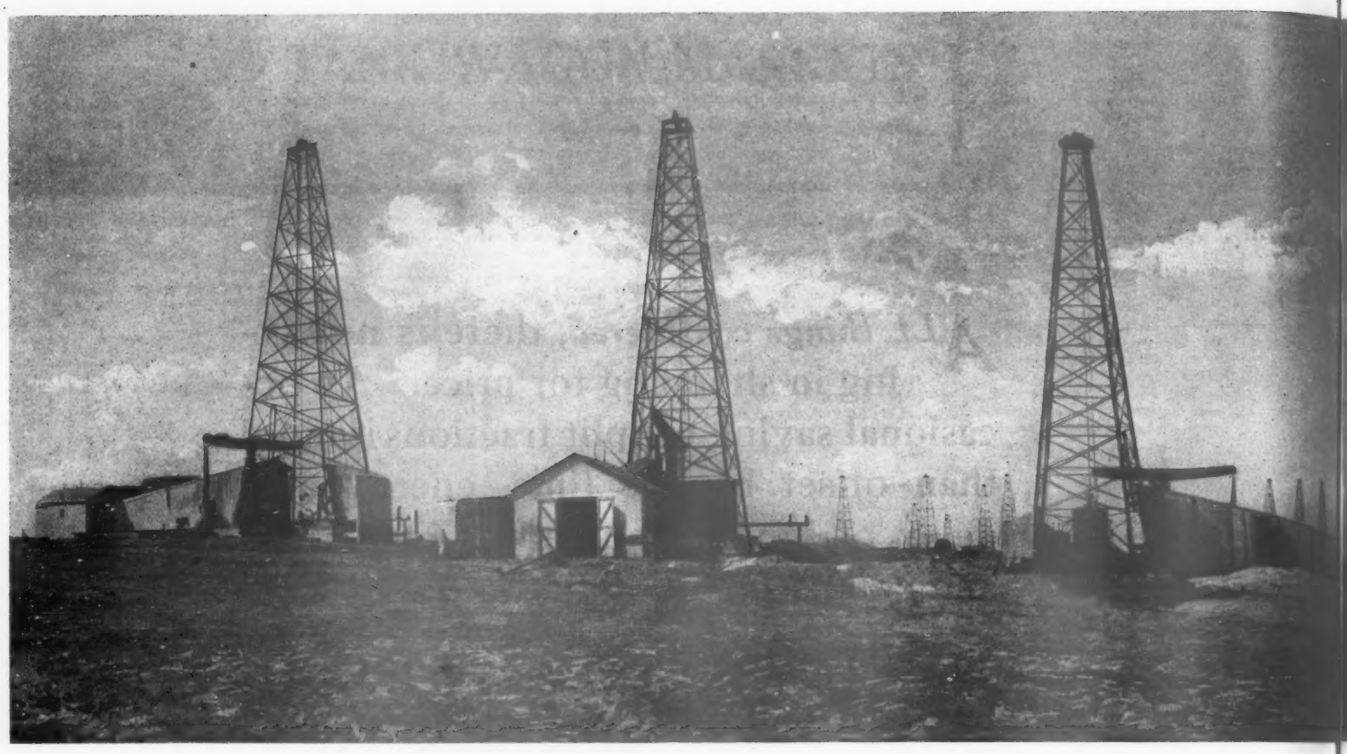
A definite purpose of this organization is making money for its regular customers.

TAXMAN REFINING COMPANY

Sales Agents

New York Life Building
Kansas City

116 S. Michigan Ave.
Chicago



Nearly 50 Moore Steel Derricks (with more to come) in Mc Kee Lease,

Looking forward to a "Moving Da

Dry holes are as inevitable as death and taxes. And producing wells sooner or later refuse to produce. Then comes "moving day"—the day for salvaging what may be salvaged of pipe and rig.

When moving day comes in the above field, there will be no derricks to be written off as dead loss. For every one of the fifty odd Moore derricks (more are being added right along) will be hauled away along with the pipe and rig to be used again and again elsewhere.

The usual graveyard of wooden derricks will be missing and the absence of these monuments to bygone wastefulness will cause no regrets. And when the balance is struck, the owners will pocket a safe little margin of twenty or thirty thousand dollars which, but for their foresight in investing in Moore derricks, would not have been there. And during the entire producing period of each well they will enjoy a practical absence of repair cost, fire and wind hazard.

Start using Moore derricks now, in order that you may, when moving day comes, face it without regrets.

LEE C. MOORE & CO., Inc. *Established 1907*, **Pittsburgh, Pa.**

BRANCH OFFICES AND WAREHOUSES:

Midwest Bldg.
Casper, Wyo.

Magnolia Bldg.
Dallas, Texas

P. O. Box 339
Shreveport, La.

Union Trust Bldg.
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MOORE
TUBULAR STEEL
DERRICKS

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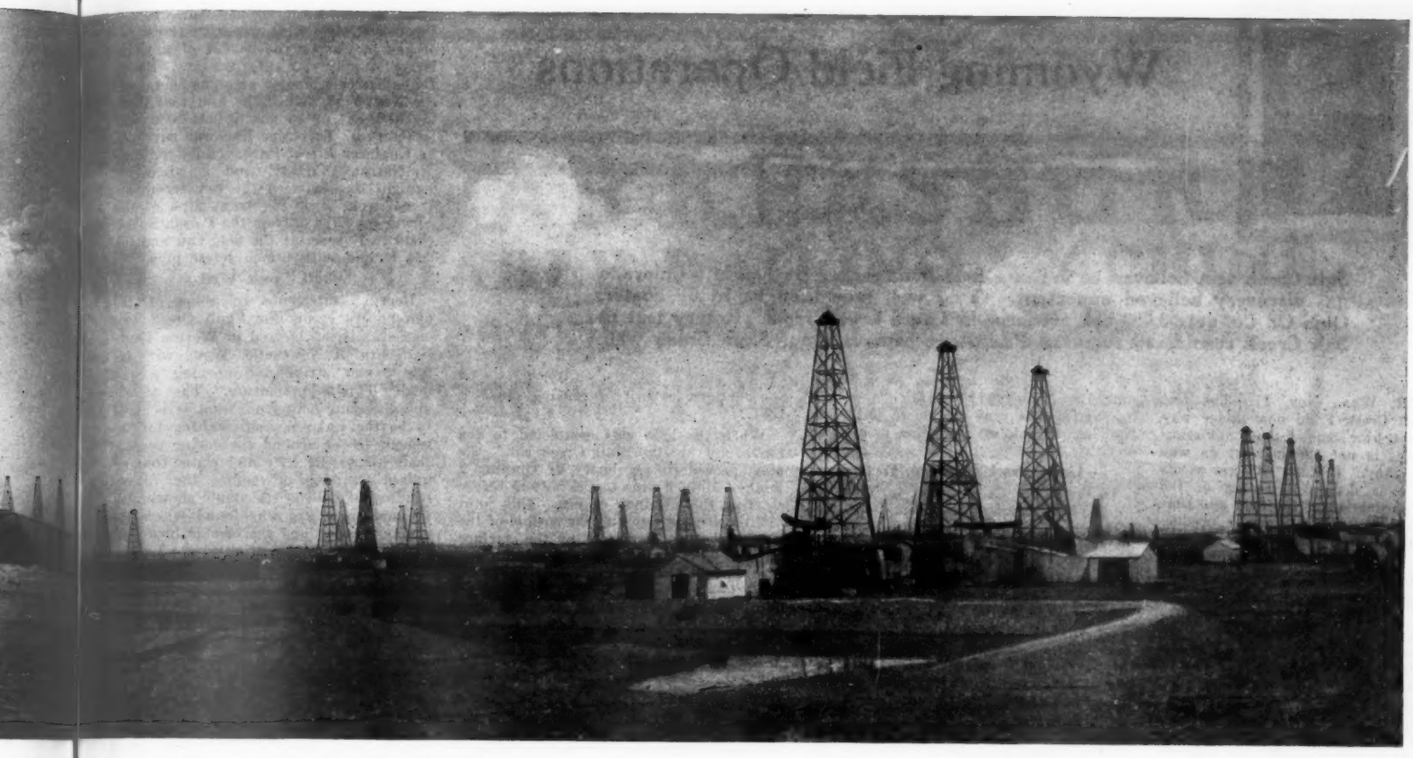


Lee Lease, Tonkawa Field, opened by McCaskey & Wentz

Day" without regrets

Steel Rigs for Lower Drilling Costs

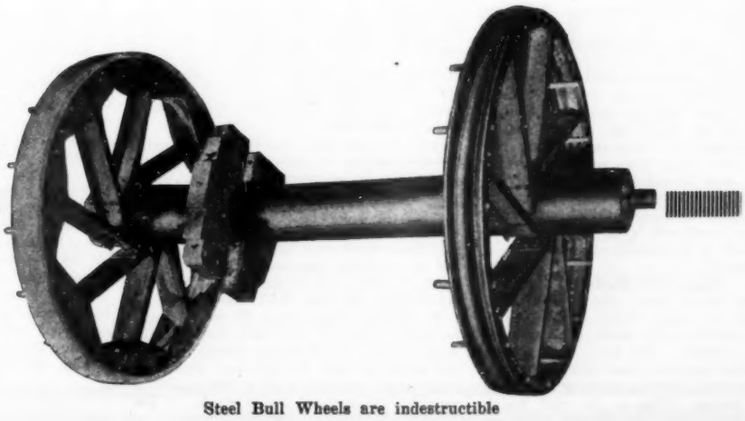
The cost of a bull wheel depends on how many wells it will drill before it is worn out. On this basis, the steel bull wheel has proven itself by long odds the cheapest in use. It is practically indestructible. The depreciation, wear and tear is negligible. Hence it is a permanent asset in your drilling equipment.

The Moore line of steel equipment includes:

- Bull Wheels
- Band Wheels
- Calf Wheels
- Walking Beams
- Pitmans
- Steel Tug Rims for Wooden Band Wheels
- Sand Reels
- Sand Line Sheaves
- Machinery Supports
- House Framing
- Engine Blocks
- Etc., Etc.

Steel Tug Rim for Wooden Band Wheels

Steel Band Wheel



Steel Bull Wheels are indestructible

Wyoming Field Operations

By F. B. Taylor

Salt Creek test believed to indicate field has reached its height. Colorado gas discovery believed important. Craig well now thought to be duster. Ohio Oil Co. gets 3,000-bbl. producer in Lance Creek Field. Rotary test at Salt Creek considered success. Premature reports about Skull Creek well.

CASPER, Wyo., Nov. 17.—The test of the Salt Creek Field now under way and completed on some of the south zones of the field, is not turning out as was hoped by many. In fact, the test seems to point to a decided lessening of the potential production of the field and that many of the wells were actually producing at 100 per cent when they were supposed to be making only about 45 per cent of the potential.

The gas pressure is certainly going off fast and it appears now that the time when the wells of the Salt Creek Field will be pumped is much closer than was first thought. It is now considered that some of the edge wells will be pumping inside of a year or two and that the new electrical generating plant that is under construction by the Midwest for furnishing electric power to pump the wells of the field of the Midwest and its subsidiaries, will not be ready when the time comes for the wells to be operated by this power.

The test now going on will not be finished before the end of this month and then it will be possible to obtain a definite figure on what the prospects are for the future and the possible falling off of the field. The opinion is gradually growing here that Salt Creek has reached its high point and that from now on, the production of oil will stay at its present point with slight variations and eventually start on the decline that will end when the wells produce too little oil to make them pay.

It will be a long time before this point is reached. According to many who are experienced in the field enough to warrant an opinion of worth, it is thought that at least 10 years will lapse before the final decline is started, but the attitude expressed everywhere here over the result of the test so far is very pessimistic and much talk is heard of a definite search for some new field to take Salt Creek's place.

Colorado's Gas Well

Colorado came to the front the past week with a completion by the Union Oil Co. near Fort Collins of a large gas well, which commenced to show as a small gas well of about 100,000 feet, then gradually blew itself in until it is rated at 85,000,000 feet capacity, and is accounted one of the largest gas wells in this region.

The Union Oil Co. is a subsidiary of the Dutch Shell and has been operating in the Rocky Mountain regions for several years with varying success. This strike at Fort Collins shows extensive possibilities of supplying gas to many nearby cities and towns and it only remains to drill other tests nearby to prove that the well is not a freak or only a small pool. This is the first gas strike of importance met with in Colorado, only one other producing area, the old Florence Field, is producing oil and that is rather small.

Craig Well Duster?

On the other hand, the well of The Texas Co. at Craig, Colo., which had a showing of oil in the shale, now appears to be a duster. The first Wall Creek or Frontier sand has been drilled through and the hole is now carrying about 3,000 feet of water. This is the well which caused considerable excitement when reported as a discovery well of a new field by parties who were unable to judge the showing of shale oil according to its true meaning.

Lance Creek 3,000-bbl. Well

In the Lance Creek Field, in Niobrara County, Wyoming, the Ohio Oil Co. sprung a surprise by bringing in a gusher on Section 4-35-65 that is making around 3,000 bbls. daily one of the largest wells brought in in Wyoming, outside of Salt Creek for many months.

This well found the top of the Dakota sand at 3,490 feet and stopped drilling at 3,505 feet with the hole filling rapidly and gassing. The tools were just out of the hole when the well made her first flow, but the crew had prepared for it and the flow was tanked without the loss of any oil. This is also the largest well drilled in the Lance Creek Field since the palmy days when the big wells on Section 36 and the Buck Creek's wells near that section made the fields look like a wonder.

Rotary Test Progress

The first well drilled with the new rotary outfit of the Curtis Drilling Co. in the Salt Creek Field has been completed through the second Wall Creek sand. This is a test well to see what the rotary will do in Salt Creek as against the cable tools.

This test is an eyeopener to the operators who have watched the work of this rotary outfit. It has been put down much slower, according to the rotary men, than would be required in regular drilling work in the Salt Creek Field, for the formations are new and the rotary men had never had any experience in this region. Several circumstances delayed them because of their lack of knowledge of conditions here. The crew are all from the Louisiana oil regions and never thought to drain the water lines when a cold snap came, as a result a delay of two days was brought about by the freeze-up of the line. At another time, the crew dug a deep pit in the laminated shale bed at the derrick and spent two days pumping water into this reservoir. When they came to the rig the following morning the pit was empty, the water having run out through the crevices in the shale.

However, with all the delays, only 17 days were spent on the well to complete it through the second Wall Creek sand; also in this working time, the outfit took several cores from both the first and second Wall Creek and the rotary men figure that only eight days were spent in actual drilling.

Only two strings of casing were set; the first string consisting of three joints of 12-inch to shut off the surface cave and water, and the second string was the 8¼-inch casing run to 1,358 and cemented. This means a saving of considerable value over the cost of the casing in a cable tool well, for with the latter, a string of 10-inch pipe would be set through the first Wall Creek sand.

It usually takes from 30 to 50 days to drill a well in the Salt Creek Field with cable tools and this completion by the rotary in only 17 days and with only eight days' actual drilling easily sets a record. Now that the formations are known, the second test is expected to show a new record in putting down a hole.

When the hole was completed to the top of the second Wall Creek sand, the crew proved its regularity by running a joint of 10-inch pipe to the bottom before starting the 8¼-inch casing. This joint of 10-inch went down to the bottom of the hole and then back up to the surface without stopping at any point, proving that the hole was straight and clear.

Rock bits were used through the first Wall Creek sand and at several points where sands were encountered. At one point the cones were lost which occasioned a short fishing job but they were soon recovered. Fishtail bits were used through all the shale formations.

Another outfit is drilling on the Golden Eagle Dome in the Big Horn Basin and has some very hard formations to drill there. This is also a test to show what the rotary can do in this region.

It is freely stated here in the oil operator's circle that when the market starts up again in the spring, there will be a strenuous drilling campaign commenced in the Salt Creek Field, now that the peak of production has been reached, and a maximum production obtained from the whole area.

The New York Oil Co. has completed the trunk line from the Poison Spider Field to the Boone Dome southwest of Powder River. This will give the users of gas in Casper the benefit of a much larger supply for the winter. Boone Dome has been known as a gas field since the New York drilled the first well there in 1918, but up to now it has been held in reserve. This pipe line was surveyed by Engineer Albert Park, county engineer of Natrona County, and is almost a straight line between the two terminals. It connects with the trunk line of the New York Oil Co. from the Poison Spider Field to Casper, at the field end and the line is laid with 6-inch screw pipe.

Skull Creek Well

Recent statements in some of the newspapers credit the Skull Creek well of the Midwest, located in Weston County, south of Newcastle, Wyo., with being a new strike and opening a new field. This is premature. The well is now standing on top of what is believed to be the Lakota sand, waiting for the cement to set around the casing because there was some cave and water that required shutting off before the Lakota sand was drilled. A small showing of oil and some gas was found where the casing was set and the owners hope that this presages a body of oil in the Lakota.

From examinations made by several geologists, it would seem that the Skull Creek well is destined to be a dry hole, but in spite of the adverse reports, the men who examined the structure hope the area may come in productive.

The Riter Conley Construction Co. has completed 38 of the 80,000-bbl. tanks for the Sinclair Pipe Line Co. at Clayton, Wyo., and this ends the contract for tank construction that the Riter Conley had for building this tank farm. The camps and houses used on the tank farm for the crews doing the work will be sold at auction and the construction firm will vacate the tank farm.

Carbon County Tests

The Producers & Refiners well at Bell Springs, Carbon County, southern Wyoming, is not the discovery well of a new pool, according to later reports from that

(Continued on Page 85)

News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., Nov. 17.—In western Canada, an important development in the east central Alberta area is the coming in of British Petroleum, Ltd. No. 2 on Section 30-46-6w4 in the Irma-Wainwright Field. On November 10 bailing resulted in good showings of oil, and the next day the well started to flow, with an estimated production of 100 bbls. a day. The oil comes from a 17-foot sand at a depth of about 2,020 feet at the base of the Benton shale, and there is a good gas pressure, resulting in a steady flow. The 100-bbl. figure, which is the official estimate of Dr. C. T. Galbraith, managing director, and Newton W. Emmons, geologist for the company, may be somewhat exceeded when the production is definitely checked up.

British Petroleum, Ltd., No. 1, Section 36-45-7w4, was discontinued at about 2,012 feet earlier in the year. It developed about 8,000,000 feet a day of wet gas, but was not carried to the supposed oil horizon owing to drilling difficulties. Instead, No. 2 was started close to No. 1 for a definite test of the potential oil-bearing formations underlying the gas sand. The company, which is largely financed by Vancouver, B. C. capital, has planned a series of six tests on its extensive holdings in the Irma-Wainwright area. If the reported production holds up under a definite capacity test, the well will be the best oil producer yet drilled in the Canadian West. The production is reported to be a high grade crude.

Alberta Area

In the east central Alberta area, several other tests are rigged up or located. General Oil Development Co. of Vancouver, B. C. has a location on Section 26-46-7w4. Wainwright Oil & Development Co., financed by Wainwright citizens last year, started a test with a light drilling outfit on Section 36-44-7w4, but this was carried only to about 200 feet, when tentative arrangements were made for changing to a heavier outfit. Nothing further seems to have been done at this location. Near Irma the Irma Oil Development Co., another local enterprise, has a location spotted on Section 28-45-9w4, and some drilling equipment on the ground. All these tests have been hanging fire, pending definite results from drilling operations already under way. In the Fabyan area, Imperial Oil, Ltd., No. 2, Section 14-45-8w4, is the only other test that has been actually drilling. This test was held up by casing trouble around 1,864 feet and no further change has been reported in its status in the past month.

Other Imperial Oil, Ltd., drilling operations in the Canadian West are at present restricted to the Okotoks Field, southwest of Calgary. Royalite Oil Co. No. 3, Section 6-20-2w5, which developed a good wet gas production around 2,940 feet, has not been drilled any deeper this summer. The gas from this well has been used for drilling operations at Royalite's No. 4, and in the company's compressor plant; the residual gas from the latter being delivered to the Calgary mains. Royalite Oil Co. No. 4, Section 7-20-2w5, which recently got a gas production around 7,000,000 feet a day is being carried deeper for oil. The drilling has

(Continued on Page 96)

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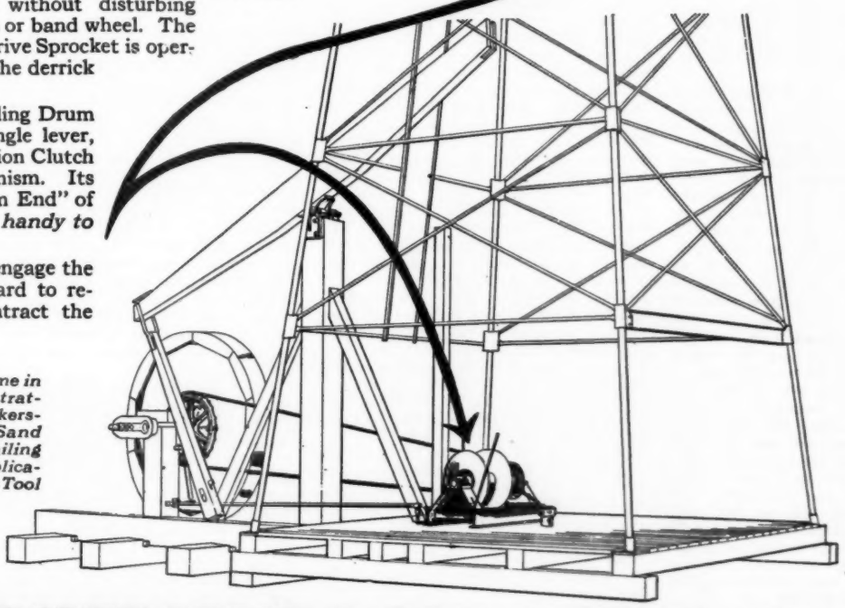

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Oklahoma Field Operations

By C. D. Lockwood

Northern edge of production at Wewoka seems defined by test which had 2,500 feet of oil in hole. Output of Burbank and Tonkawa shows increase. Well in Tulsa County gets production from Red Fork sand, the only producer from that sand in the district. Big gasser completed in Creek County.

The Wewoka Field again engaged the attention of Oklahoma producers during the past week with the poor showing of Davis, Sloan & Crosbie's No. 1 Foster, CNL NE SW, Section 28-8-8, which had about 2500 feet of oil in the hole and was making 750,000 feet of gas from sand at 3,172-82 feet. This test is about one-half mile north of the producing area and apparently defines the field in that direction. The Producers & Refiners Corp. brought in a good well when its No. 5 Foster, NW cor. Section 33-8-8 started out at 100 bbls. an hour, 15 feet in the sand topped at 3,130 feet.

The Wewoka production for the week ended November 14 was 18,683 bbls. from 17 wells. Compared to the figures for the previous week, the field gained 3 wells and 3,128 bbls. daily production.

The Tonkawa Field showed an increase for the week of 1,177 bbls. and 6 wells, reporting a daily average production of 47,274 bbls. from 584 wells for the week ended November 14, in comparison with 46,097 bbls. from 578 wells for the previous week.

The increase in the Burbank Field amounted to 3,171 bbls. from 5 additional wells. The figures for this week show 88,479 bbls. and 1,113 producing wells.

One of the largest producers ever opened up in the Graham Pool in Carter County was brought in by the Southwestern Petroleum Co. when they drilled deeper in No. 1 Davis, C SE NE SE, Section 25-2s-3w, for an initial production of 1,200 bbls. from sand at 2,380-2,448 feet. It was first completed in August for 200 bbls. from sand at 2,150-90 feet.

Red Fork Sand Well

Another producer helped by deeper drilling was J. I. Cromwell's No. 1 O'Neil, NW cor. NE SW, Section 15-10-8, northeastern Seminole County, which had been making 250 bbls. from sand at 3,480-84 feet and was increased to 370 bbls. when it was deepened 2 feet.

An interesting well in Tulsa County, south of Keystone, was the Mutual Oil Co.'s No. 2 Bartlett, NE cor. SW NE, Section 10-19-10, which was good for 75 bbls. from the Red Fork sand at 1,690-1,712 feet. Its interest arises from the fact that it is the only producer in this district from the Red Fork sand.

The Union Petroleum & Supply Co., after deciding to abandon No. 1 Draughon, NW cor. SW SW, Section 27-6s-2e, Love County, pulled the pipe to 2,560 feet and shot the well with 80 quarts from 3,200-40 feet. After the shot the hole filled up with 500 feet of oil.

A huge gasser was brought in by the Oklahoma Producing & Refining Co. in western Creek County when No. 1 Washington, SW cor. NE SW, Section 31-17-8 started making 75,000,000 feet on top of the sand at 2,808 feet.

The Blackwell Oil & Gas Co.'s No. 1 Kumler, C NE SE, Section 9-27-1w, Kay County, was deepened 3 feet after topping the sand at 2,370 feet, and made 20,000,000 feet of gas and 325 bbls. of oil in 24 hours.

Operations in Oklahoma for the week ended November 10 totaled 1,298, a decrease of 21 operations compared with the previous week. On November 10 there were 66 locations, 224 rigs, 495 wells drilling and 513 wells shut down. The week before showed 67 locations, 213 rigs, 505 wells drilling and 534 wells shut down, a total of 1,319 operations.

Fair Gas Well

In Okmulgee County, D. C. Lampton's No. 4 Harris, CSL SE SW, Section 2-14-13, made 4,000,000 feet of gas from sand topped at 1,856 feet and drilled to 1,866 feet. The Crescent Oil Co.'s No. 2 Marshall, SW cor. NE SE, Section 9-13-12, was spudded 10 feet and shut down. The Roxoline Petroleum Co. had a rig on the ground for its No. 4 Campbell, CWL NW SE, Section 24-13-12. Waxler and Preisler also had a rig for their No. 2 Morton, CWL SW SW, Section 31-13-12, and Havell and others, in the same section, had one for their No. 1 Barber, SE cor. SW SW.

The Mutual Oil Co. abandoned No. 3 Asbury, CEL SE NW, Section 26-13-13, as dry at 2,200 feet. Earnest Price's No. 6 Connor, NW cor. Section 6-14-15, showed 500,000 feet of gas from sand at 1,443-1,503 feet.

In Okfuskee County, Bassett and Storm's No. 1 Dyer, NE cor. NW, Section 12-13-7, was good for about 50 bbls. daily from a broken sand at 3,553-63 feet. The Skelly Oil Co.'s No. 1 Johnson, SW cor. SE, Section 4-13-8, flowed 175 bbls. in 12 hours at 3,516 feet.

In Stephens County, Holmes and others' No. 7 Cox, NE cor. NW NE, Section 25-1s-9w, was making 20,000,000 feet of gas from sand at 2,105-35 feet. The Magnolia Petroleum Co.'s No. 6 Brooks, SE cor. NE NW, same section, had the 6-inch casing set at 1,960 feet and was showing 2,000,000 feet of gas from sand at 2,030-40 feet. The same company's No. 2 Bartley, SW cor. NE, Section 20-1s-8w, was drilling at 650 feet. The Walker Valley Oil & Gas Co. was rigging up rotary equipment for No. 1, NE cor. SW, Section 5-1s-8w. The Safety First Oil Co.'s No. 6 Rockwood, NW cor. NE SW, Section 20-1s-8w, was estimated to be good for 75 bbls. from sand at 2,045-56 feet.

Tonkawa Production

The daily average production of the Tonkawa Field by companies for the week ended November 14, was as follows:

Company—	Wells	Bbls.
Amerada Pet. Corp.	25	3,245
Blackwell Oil & Gas Co.	28	1,954
Carter Oil Co.	6	385
Champlin Ref. Co.	3	105
Comar Oil Co.	264	18,166
Cosden Oil & Gas Co. and Mariana Ref. Co.	13	592
Gypsy Oil Co.	79	7,536
Healdton Oil & Gas Co.	16	1,619
McCaskey & Wentz	42	4,685
McMan Oil Co.	2	49
Pennok Oil Co.	25	1,739
Phillips Pet. Co.	4	719
Prairie Oil & Gas Co.	10	884
Sinclair Oil & Gas Co.	1	18
Slick-Comar Oil Co.	31	3,908
Southwestern Pet. Co.	14	900
The Texas Co.	4	76
White Eagle Oil & Ref. Co.	7	694
Total	584	47,274
Total last week	578	46,097
Difference	6	1,177

Daily average pipe line runs from the field for the week were as follows: Kay County Gas Co., 27,351 bbls.; Ozark Pipe Line Co., 8,375 bbls.; Gulf Pipe Line Co., 6,317 bbls.; Empire Pipe Line Co., 1,219 bbls.; Champlin Refining Co., 1,896 bbls.; Prairie Pipe Line Co., 884 bbls.; Oklahoma Pipe Line Co., 385 bbls.; Bolene Refining Co., 550 bbls.; Golden Rule Refining Co., 210 bbls.; Total, 47,187 bbls. In addition, 87 bbls. were run to lease storage.

Creek County Operations

In Creek County, C. P. Davis was spudding No. 3 Big Mosquito, NW cor. SE, Section 19-17-9. The Prairie Oil & Gas Co.'s No. 2 Marshall, SW cor. Section 31-17-9, was a rig. H. C. Wilson's No. 2 Bucktrot, CEL NW NW, Section 35-17-10, was drilling at 790 feet. The Phillips Petroleum Co.'s No. 17 Tiger, SW cor. NW SW, Section 4-15-9, was a rig.

The Wolfe Oil Co.'s No. 1 Montgall, SW cor. Section 27-18-8, was a rig. The Drake Oil Co.'s No. 1 Larney, SW cor. Section 34-18-9, was dry and abandoned at 3,566 feet. The Shaffer Oil & Gas Co.'s No. 2 Manley, CSL SE NE SW, Section 15-19-9, had a rig on the ground. The Galvez Oil Co. was spudding No. 2 Big Mosquito, NW cor. NE, Section 30-17-9. The Bu-Vi-Bar Petroleum Co.'s No. 1 Wright, CSL NE NE SW, Section 19-17-9, is good for 11,000,000 feet of gas from sands at 2,641-49 feet and 2,657-71 feet.

The Peters Oil Corp.'s No. 2 Wilson, NW cor. SW NE, Section 22-16-8, swabbed 100 bbls. the first 24 hours from sand at 3,198-3,205 feet, with 5-inch liner set at 3,168 feet. The Atlantic Oil Producing Co.'s No. 1 Fixico, SW cor. SE SE, Section 29-16-8, was spudded and shut down. The Oklahoma Producers & Refiners Corp.'s No. 17 Washington, SW cor. NE SW, Section 32-17-8, was making 43,000,000 feet of gas on top of the Tucker sand at 2,808 feet.

The Roland Oil Co.'s No. 2 Alec, CSL SE NW SW, Section 2-15-8, was a rig. The Cosden Oil & Gas Co.'s No. 1 Warnakee, SW cor. NW SW, Section 15-15-8, was shut down for tankage after showing 8,000,000 feet of gas and spraying a little oil from sand at 3,387-93 feet.

In Okfuskee County, the Howarth Oil & Gas Co.'s No. 1 Yarhola, SW cor. NW, Section 20-12-9, was dry and abandoned at 4,266 feet. Martin had a rig on the ground for No. 1 Jacobs, SE cor. SW NE, Section 22-12-11. The Gardner Petroleum Co.'s No. 1 Tiger, SW cor. Section 26-11-8, was dry and abandoned at 4,035 feet. The Shaffer Oil & Refining Co. and Independent Oil & Gas Co.'s No. 1 Grayson, C NE SE NW, Section 30-11-10, was a rig. Colvin and others' No. 1 CEL NW NE, Section 34-11-11, was a rig.

Okmulgee and Seminole

In Okmulgee County, the Texolean Oil Co.'s No. 2 Hogan, SE cor. NW, Section 14-15-12, found 10,000,000 feet of gas in sand at 1,830-40 feet. The Wiser Oil Co's No. 2 Fish, NW cor. SW SW, Section 18-11-12, an old well, had set the 6-inch casing at 2,830 feet and was shut down. McMahan was spudding No. 1 Willis, NE cor. NW NE, Section 24-11-13.

The Gladys Belle Oil Co.'s No. 3 Mitchell, SW cor. NW NW, Section 6-12-12, was drilling at 200 feet. W. S. McCray was spudding No. 1 Davis, NW cor. SW NE, Section 6-12-12. Eagle Picher's No. 4 Wolf, NW cor. SW NW, Section 34-12-12, was a machine. Moffett and others' No. 3 Summers, NW cor. Section 8-11-12, an old well, was cleaning out at 1,700 feet.

In Seminole County, the Magnolia Petroleum Co.'s No. 1 Parker, NE cor. SE NW, Section 32-8-8, was plugged back from 3,189 feet and was flowing 140 bbls. of oil and 22 bbls. of water from sand at 3,175-86 feet. The Lewis-Clarke Petroleum Co.'s No. 1 Long, CWL SW NE SW, Section 33-8-8, is a 630-bbl. well in sand at 3,209-19 feet.

The Kay County area showed a little activity. The Carter Oil Co. was building a rig on No. 1 Pappan, SW cor. NW, Section 3-27-5. The Texas Co.'s No. 1 Munroe, SW cor. Section 3-27-5, an old well, was flowing 1,422 bbls. after being drilled to 2,920 feet. It had been making 1,530 bbls. from sand at 2,891-2,920 feet, and 6,000,000 feet of gas from sand topped at 2,876 feet. The Laurel Oil & Gas Co.'s No. 1 Mehojah, NE cor. SW, Section 4-27-5, an old well, was shot with 5 quarts in sand at 2,902-12 feet and produced 35 bbls. the first 24 hours.

The Phillips Petroleum Co.'s No. 2 Taylor, CNL NE NW NE, Section 9-27-5, is good for 360 bbls. from sand at 2,910-45 feet. The same company made a location for No. 3 Taylor, SW cor. NE, same section, and was moving in a rig. The same company's No. 5 Taylor, NW cor. NE, Section 9-27-5, made 1,440 bbls. naturally the first 24 hours from sand at 2,942-48 feet. The company was building a rig and moving in tools on No. 8 Taylor, NW cor. SW NE, same section; a cellar was being dug and rig moved in for its No. 9 Taylor, SW cor. NW NE, same section.

Kay County Producer

The Phillips Petroleum Co.'s No. 6-A Taylor, NE cor. NW, Section 9-27-5, made 2,000 bbls. naturally the first 24 hours from sand at 2,942-45 feet. The same company was building a rig and moving in tools for No. 7 Taylor, SE cor. NE NW, same section. The Prairie Oil & Gas Co. was building a rig and moving in tools for No. 1 Hobson, NE cor. SE NW, same section. The Sinclair Oil & Gas Co. was moving in tools for No. 2 Woods, NE cor. SW, same section. The Mid-Kansas Oil & Gas Co. was rigging up No. 2 Rhodes, NW cor. SE, same section. The Cosden Oil & Gas Co.'s No. 7 Sand, NW cor. Section 10-27-5, an old well, made 1,276 bbls. the first 24 hours from sand topped at 2,876 feet and drilled to 2,924 feet.

The Comar Oil Co.'s No. 4 Barnum, SE cor. NE SW, Section 10-27-5, was a rig. The Carter Oil Co.'s No. 4 Clubb, NE cor. SE SW, same section, was a rig. The Phillips Petroleum Co.'s No. 1, SE cor. Section 10-27-5, was shut down at 3,025 feet. The Phillips Petroleum Co. and Delmar Oil Co.'s No. 4, CWL SW NW SE, same section, was a rig. The same companies' No. 5, CWL NW SW SE, same section, was a rig. The same companies also made location for No. 6, NE cor. SE, same section.

The Sinclair Oil & Gas Co.'s No. 3, CWL SW NW NE, Section 15-27-5, was shut down at 2,384 feet; No. 5, CSL SE SW NE, same section, shut down at 1,604 feet; No. 7, SE cor. NE, same section, shut down at 2,936 feet; No. 8, NE cor. same section, was shut down at 3,024 feet; No. 9, CEL SE NE NE, same section, was shut down at 1,000 feet; No. 10, CEL NE SE NE, same section, was rigged up and shut down; No. 11, C NE SW NE, same section, was a rig; No. 12, C SE NW NE, same section, was shut down at 905 feet.

The Twin State Oil Co.'s No. 6 McCassey, CEL SE NE NW, Section 15-27-5, was shut down at 2,390 feet; No. 7 McCassey, CSL SE SW NW, same section, was shut down at 1,500 feet; No. 8 McCassey, CSL SW SE NW, same section, was shut down at 1,315 feet; No. 9 McCassey, C NW SE NW, same section, was shut down at 1,305 feet; No. 10 McCassey, C SW NE NW, same section, was shut down at 1,325 feet.

The Comar Oil Co. had the following wells shut down in the N½, Section 15-27-5: No. 3 Thompson, No. 4 Thompson,

(Continued on Page 97)

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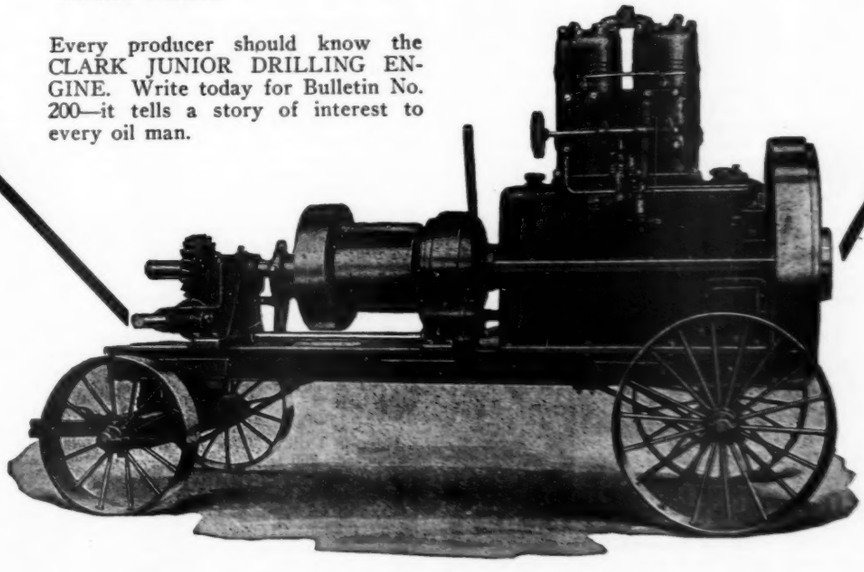

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North-Central Texas Field

By Dan F. Dugan

Production gains 3,665 bbls., mostly from new Curry Pool producers, immediately connected. Foster and others' No. 2-C Shipley makes 1,200 bbls. Featherstone and others' No. 1-C Wilson, Archer, 250 bbls.; Sunshine State's No. 10 Carter Brothers and W. I. Sims' No. 13 Burnett, 200 bbls. each.

FORT WORTH, Tex., Nov. 19.—Despite the many handicaps that confront the producing branch of the industry and a new one the past week when a deluge of rain fell over the entire North Texas Field, the production runs increased the past seven days 3,665 bbls. daily. A total of 116,030 bbls. was reported as against 112,365 bbls. daily for the previous seven days. Stephens County, which has reported a small slump in production for some weeks past, redeemed itself to a certain extent by increasing its previous week's daily output by 3,685 bbls. daily. This increase is credited to several new producers that on completion in the past 10 days were immediately connected to the pipe lines. Several of these new gushers made more than 1,000 bbls. initial daily. All of this increase in production comes from the Curry Pool, 8 miles southwest of Breckenridge. Eastland County reported a daily loss of 665 bbls., the Electra Pool 310 and Iowa Park gained 530 bbls. daily over the previous week.

Stephens County

The largest initial production from any completion for the week goes to the credit of Stephens County. Drilling 3,135 feet, Foster and others' No. 2-C Shipley penetrated the gray lime and is credited with showing for 1,200 bbls. at a total depth of 3,155 feet. Near completions in the county showing indications of making commercial producers are the Humble Oil & Refining Co.'s No. 1 Wild at 3,600 feet, which topped the gray lime and is making both oil and gas. It will be connected with the pipe line before drilled in and completed. The Mahlstedt Mook Oil Co.'s No. 1 Boyett is making 15,000,000 feet of gas from a sand at 2,520 feet. The gas will be cased and drilling will continue down to the gray lime. The Walker-Caldwell No. 14 W-C has 400 feet of oil in the hole and drilling at 3,225 feet.

Eastland County

There were no completions of importance in this county during the week, the largest was the Knox Lewis Development Co.'s No. 1 Edison, that made initial 50 bbls. at 2,845 feet. It is in the Gorman Pool.

The Kokomo Oil Co.'s No. 1 Harris has a show of gas and drilling at 3,130 feet in lime. The Gordon Petroleum Co.'s No. 1 Ray is showing some gas and drilling in the black lime at 3,570 feet.

Palo Pinto County

Some deep tests in this county are showing oil and gas, and a little deeper drilling may develop them as commercial oil producers. Moore & Snebold's No. 1 Boles is making 8,500,000 feet of gas with a 1,400-pound rock pressure around 3,150 feet. The Moore & Snebold Co. is starting two tests on offset acreage from No. 1 Boles, gas producer; No. 1 Pruitt is a derrick and No. 2 Boles has timbers on the ground and building of the derrick will start at once. Natural gas in this county sells for 10 cents a thousand feet at the well, the highest price paid in the North Central Texas Field. Thomas and others' No. 1 Thomas is showing oil and gas and cleaning out after a shot at 3,470 feet. The Dalton Oil Co.'s No. 5 Dalton has 2,500 feet of oil in the hole and is shut down in a sand at 4,058 feet.

Panhandle District

Development in this territory has slowed up on account of the heavy rains and muddy roads for three weeks. The producing wells in north Carson County are all pinched in for lack of storage, there being no pipe line to handle the production. There probably will not be any great amount of increased development in this section during the winter but next spring should see this northwest territory thoroughly exploited.

Archer County

The largest reported completion for the week in Archer County is Featherstone and others' No. 1-C Wilson at 1,590 feet, credited with showing initial on the pump of 250 bbls. a day. The Sunshine State Oil & Refining Co.'s No. 10 Carter Brothers is a 200-bbl. producer at 1,585 feet.

The roads are drying up in most parts, and tests in the wildcat sections as well as in the producing areas should start drilling this week.

In the vicinity of Jetter and others' No. 1 Wilson and about 1 mile to the south of the Wilmot producers, several locations have been made and some derricks are up. D. O. Johnson, offsetting to the west on his 20-acre tract is drilling at 200 feet. To the north the R. F. M. Oil Co. is preparing to start No. 1 Wilson. Offsetting the Jetter well to the east, the Kentucky Oil Corp. is rigging up its No. 1 Wilson.

The only development outside the usual drilling in the defined areas was the showing made in the Kentucky Oil Corp.'s test on Block 6, J. A. Kemp tract. The top of a good looking sand, showing enough oil to warrant a test, was picked up at 1,426 feet. Casing was set and the well will be bailed some time this week. A great amount of interest is being manifested in the outcome, its successful completion as a producer will add many acres of new territory for future drilling.

In the Swastika Field in the south part of the county the roads are in fair condition, with few exceptions, and the week found a resumption of drilling on a number of tests isolated during the previous week. South of the Swastika proven field about a mile the test of Norton & King's No. 1 O'Donnell is running a string of 5⅜-inch casing on top of a good looking sand at 1,275 feet.

In the Swastika Field, Clark & Clayton's No. 2 Richardson set the 6⅝-inch casing on the sand, showing plenty of oil at 1,364 feet, and will drill in within a few days.

Wichita-Electra

The pleasant weather after the rains has put the roads in condition and preparations are being made for a general resumption of drilling on the majority of leases in the Waggoner, Burnett and other tracts in the south pool.

On the Burnett tract, Section 5, South Electra, W. I. Sims has semi-completed No. 13 Burnett with a daily production of between 200 and 250 bbls. daily from the 1,535-foot sand. It has all indications of being one of the largest producers of any of the late completions in this territory.

After being shut down, drilling has again started on the wells in the Hirschi district. The Sun Oil Co.'s No. 23 set and cemented casing on top of the pay at 1,846 feet, showing for the usual Hirschi producer, and will drill in during the next few days. On another tract on the Hirschi, the Pigg Oil Co.'s No. 17 is feeling for the pay at 1,825 feet.

The Gulf Production Co. set casing on top of the pay at 1,811 feet, showing plenty of oil in No. 13 Dale. No. 14 Dale is drilling at 600 feet.

Completion reported in the Wichita-Electra district: Duncan and others' No. 2 Rhodes, 15 bbls. at 1,275 feet.

Drilling Operations

Kruger and others' No. 7 Waggoner is drilling in brown shale at 665 feet; Magnolia Petroleum Co.'s No. 6 Douglas, drilling at 870 feet; Rowe Drilling Co.'s No. 1 Waggoner, drilling in blue shale at 1,385 feet; Texhoma Oil & Refining Co.'s No. 1-J Waggoner, drilling at 1,810 feet; Empire Gas & Fuel Co.'s No. 26 Burnett, shut down for orders on top of an oil sand at 1,628 feet; Fisher and others' No. 3-B Fisher, drilling at 1,475 feet; Herford Oil Co.'s No. 11 Allingham, set 6⅝-inch casing at 1,914 feet; pipe collapsed and shut down for orders; Hartford Trust Co.'s No. 6 Burnett, cleaning out to bottom at 700 feet; Magnolia Petroleum Co.'s No. 26-A Waggoner, drilling at 1,530 feet; No. 5-B Waggoner, 10-inch casing is leaking on top of an oil sand at 965 feet; No. 1 Pere Waggoner, drilling at 1,330 feet; No. 1-A Burnett, at 1,745 feet; Noel and others' No. 1 Waggoner, tools in the hole and shut down for 5⅞-inch casing at 1,950 feet; Texhoma Oil & Refining Co.'s No. 10-F Waggoner, preparing to pump and test an oil sand at 1,825 feet; No. 11-F. Waggoner, drilling an oil sand at 1,800 feet; Carter and others' No. 2 K. & K., drilling at 355 feet; Kentucky Oil Corp. No. 1 Davis, drilling at 1,215 feet; Stedham and others No. 2 Daume, making salt water from a sand at 1,824 feet; The Texas Co.'s No. 285 Waggoner, set 8¼-inch casing on top of an oil sand at 1,918 feet.

Burkburnett-Hirschi

Coleman Drilling Co.'s No. 1 Hewitt, drilling at 1,265 feet; Powell and others' No. 1 Van Horn, drilling in brown shale at 1,120 feet; Kemp and others' No. 5 Eads, setting 6⅝-inch casing on top of an oil sand at 977 feet; Langford and others' No. 7 Langford, fishing for tubing at 1,850 feet; No. 8-B Langford, drilling at 1,805 feet; Morgan and others' No. 1 Chapman, drilling in blue shale at 1,795 feet; McDabb Oil Co.'s No. 2 Potter, drilling up two joints of casing at 1,863 feet; No. 3 Saunders, drilling at 1,575 feet; Magnolia Petroleum Co.'s No. 90 Reilly, fishing for lugs at 1,673 feet; No. 91 Reilly, drilling at 485 feet; No. 20 Hortoin, at 816 feet; No. 7 Hoitzen, at 1,805 feet; John O'Neil No. 3 Saunders, lost casing seat on top of an oil sand at 1,822 feet; No. 4 Saunders, will cement 6⅝-inch casing at 1,820 feet; Perkins and others' No. 1 Saunders, flowing 150 bbls. a day from a sand at 1,828 feet; No. 2 Saunders, drilling at 1,785 feet; Robinson and others' No. 6 Roller, bailing and showing for a small well from a sand at 1,165 feet.

Archer County

Completions: Bohler and others' No. 1 Wilmot, 50 bbls. at 1,600 feet; Collenger and others' No. 1 Hawkins, dry at 1,705 feet; Featherstone and others' No. 1 Wilson, 250 bbls. at 1,590 feet; Hudspeth and others' No. 1 Black, dry at 2,010 feet; Petroleum Production Co.'s No. 5-C Wilson, dry at 1,640 feet; Richardson and others' No. 1 Scott, dry at 2,010 feet; Shaw and others' No. 5 Ferguson, 20 bbls. at 1,435 feet; No. 12 Ferguson, 15 bbls. at 1,580 feet; Smith and others' No. 1 Wilson, 50 bbls. at 1,390 feet; No. 2 Wilson, 70 bbls. at 1,595 feet; Sunshine State Oil & Refining Co.'s No. 8 Carter Bros., 30 bbls. at 1,575 feet; No. 10 Carter Bros., 200 bbls. at 1,585 feet.

Drilling: The Texas Co.'s No. 8 Carter Bros., rigging up a machine at 1,560 feet; No. 9 Carter Bros. is a derrick. Barkley and others' No. 1 Wilson, sand showing some oil at 1,535 feet; will bail and test. No. 2 Wilson, drilling at 255 feet; Barnes and others' No. 1 Wilson, bailing and testing a sand at 1,610 feet; Bell and others' No. 3 Wilson, drilling at 1,485 feet; Bohler and others' No. 2 Wilmot, setting 6⅝-inch casing at 1,585 feet; Roy and others' No. 1 Mrs. Carter, drilling at 880 feet; Burns and others' No. 1 Netherton, drilling in blue shale at 1,325 feet; Chenault and others' No. 4-C Wilson, drilling an oil sand at 1,585 feet. No. 4-B Wilson, hole full of oil from a sand at 1,595 feet; No. 5-D Wilson, drilling at 1,325 feet; Dale and others' No. 6 Wilmot, drilling at 1,405 feet; No. 7 Wilmot, drilling at 155 feet; Dilday and others' No. 1 Ferguson drilling in soft rock at 1,970 feet; Dickson and others' No. 1 White, coring at 1,600 feet; Empire Gas & Fuel Co.'s No. 1 Wilson, rigging to pump an oil sand at 1,618 feet; No. 1-D Wilson, shut down on top of an oil sand at 1,400 feet; Featherstone and others' No. 2-C Wilson, drilling at 905 feet; Nos. 3 and 7 Wilson, are derricks; Granberry Drilling Co.'s No. 1 Wilson, rigging to test an oil sand at 1,600 feet; Gwynn and others' No. 4 Mrs. Carter, drilling at 1,435 feet; Hardeyste and others' No. 1 Parrish, drilling in brown shale at 1,325 feet; Layne and others' No. 1 Parrish, testing a sand showing some oil at 1,393 feet; Lynch and others' No. 1 Birdwell, trying to pull 6⅝-inch casing to reset at 1,320 feet; Maer and others' No. 1 Parrish, drilling at 1,405 feet; No. 6 Mrs. Carter, rigging to pump a sand showing oil at 1,575 feet; Morris and others' No. 1 Wilson, drilling in shale at 805 feet; Murchison and others' No. 1 White, drilling at 505 feet; Oil Investment Co.'s No. 2-B Parrish, drilling in blue shale, at 1,475 feet; No. 3-B Parrish, drilling at 705 feet; Payne and others' No. 1-A Parrish, drilling at 155 feet; Shamrock Oil Co.'s No. 4 Richardson, drilling at 1,005 feet; Sibley and others' No. 5 Wilmot, drilling at 1,125 feet; No. 6 Wilmot, drilling at 705 feet; Sixty-Six Oil Co.'s No. 3 Wilson, set and cemented 6⅝-inch casing at 1,579 feet; Staley and others' No. 3 Carter, will bail and test an oil sand at 1,580 feet; No. 4 Mrs. Carter, drilling at 1,215 feet; Stone and others' No. 1 Wilson, drilling in hard rock at 1,605 feet; Sun Oil Co.'s No. 3 Farmer, trying to pick up 10-inch casing at 895 feet; Swastika Oil Co.'s No. 9 Richardson, showing water from a sand at 1,365 feet; No. 1 Neal, shut down for cable tools at 2,950 feet; Underwood Drilling Co.'s No. 2 Wilmot, drilling at 305 feet; White Oil Corp. No. 11 K. & K., is a derrick.

Young County

Completions: Shamrock Oil Co.'s No. 2 Bower, dry at 660 feet.

Drilling: Bullington and others' No. 1 Hawkins, sidereaming at 1,327 feet; Byrens and others' No. 1 Mahoney, shut down for 5⅞-inch casing at 3,933 feet; Calmo Oil Co.'s No. 3 Moren, drilling at 2,110 feet; Donohoe and others' No. 1 Andrews, is a derrick; Gulf Production Co.'s No. 2 Hockaday, drilling by tools at 3,305 feet; Holcomb

(Continued on Page 64)

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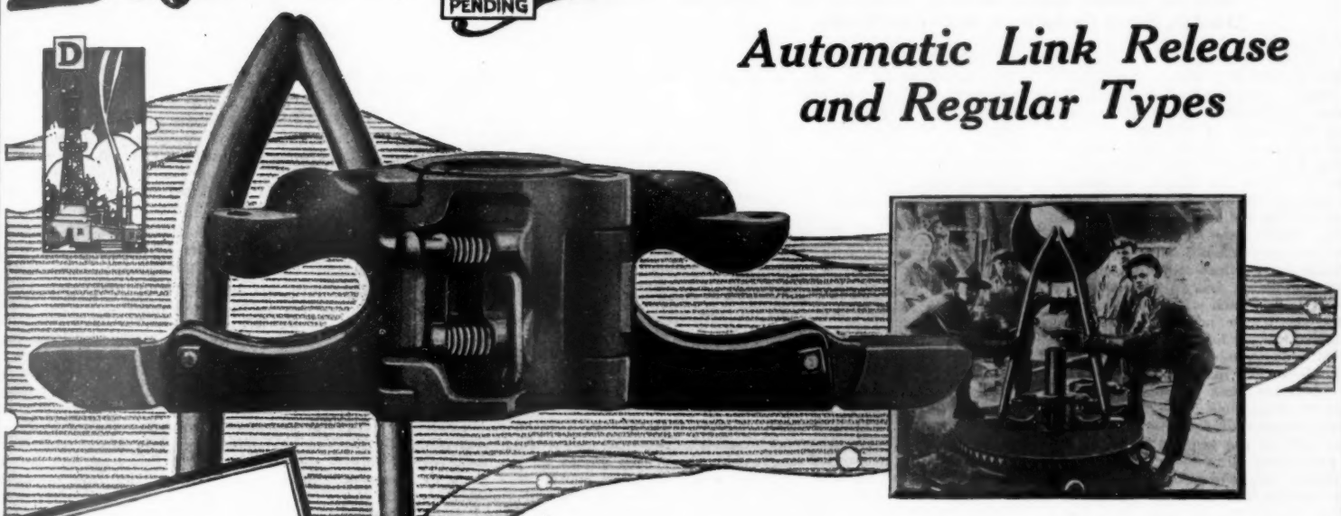

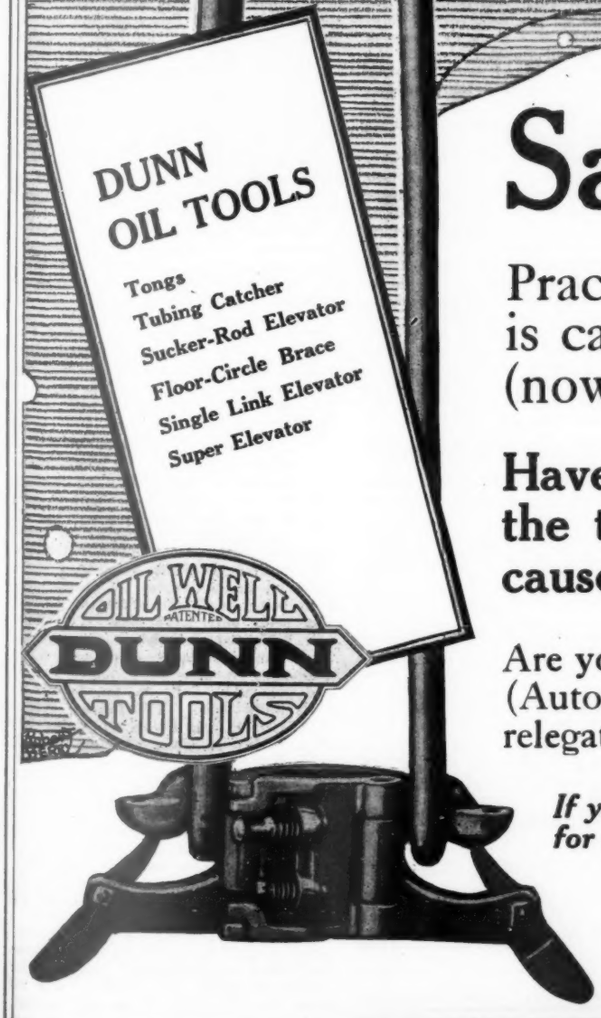

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California Field Operations

By L. P. Stockman

October production totaled 24,576,400 bbls., a decrease of 1,186,087 bbls. Marine Co.'s No. 7 Thatcher, redrilled and deepened blows in at rate of 8,000 bbls. for several hours, starting campaign for deepening. Standard's No. 2 Jordan, Santa Fe Springs, makes 4,100 bbls.

LOS ANGELEC, Calif., Nov. 17.—The official production of the State for October was 24,576,400 bbls., a decrease during the month of 1,186,087 bbls.

The decline in production of Santa Fe Springs from 340,000 bbls. daily on September 25 to 230,000 bbls. at the present time has not resulted in the opening up of any of the wells in the San Joaquin Valley, which were shut in during the recent overproduction. With production at Santa Fe Springs dropping with unexpected rapidity, and an anticipated decline at Long Beach within the next few weeks, the larger marketing companies are again looking forward to the production of heavy crude. The fuel oil market in California, in contrast to the gasoline situation, has been exceptionally stable for some time. The huge increase in consumption of fuel oil, which took place early in the year, is still growing, and practically all of the large marketing companies will show signs in fuel oil sales varying from 10 to 50 per cent.

It is interesting to note that heavy crude and residuum only increased 2,512,497 bbls. between September 30, 1922 and September 30, 1923, a period of exceptionally high production. Light crude and tops, on the other hand, increased 26,724,811 bbls. during the same period. The small increase in stocks of heavy crude and fuel oil is attributed by many to the shutting in of some 2,000 wells in the San Joaquin Valley. This, however, is not the only reason for the small increase in stocks of residuum. It is due rather to a larger consumption of fuel oil than a decreased production of heavy crude.

A general analysis of the situation will prove this to be correct. Stocks of tops increased about 10,000,000 bbls. during the year between September 30, 1922 and September 30, 1923, most of which was the result of topping light Southern California crude. Allowing for a 25 per cent recovery of tops from crude, it can be readily seen that approximately 40,000,000 bbls. of crude were treated, the residuum from which more than offsets the total amount of heavy crude in the San Joaquin Valley, which was shut in because of low prices resulting from the over-production of light crude in Southern California. There was a decrease of 1,283,838 bbls. of heavy crude and residuum during September and it would not be surprising to note another decline during October in this classification of stocks. At the present time there are 2,579 wells with a daily production of approximately 110,000 bbls. daily totally closed down throughout the State, the greater majority of which are in the San Joaquin Valley and Santa Maria fields. The actual daily production for the State during the past week was 766,400 bbls., which, added to the 110,000 bbls. shut in, gives the State a total potential production of 876,400 bbls. daily.

Long Beach

Long Beach furnished the surprise of the week by showing a decline in production of 11,000 bbls. a day, the present daily production being 245,000 bbls., compared with 256,000 bbls. two weeks ago. Because of irregular shutoffs and numerous mechanical difficulties it has been contended by many that the decline at Long Beach would be rapid soon after the peak was reached and, while this may be true, it is not believed that the drop of 11,000 bbls. a day in production during the current week is the first step in this direction. As has been the case for some time, as soon as the field output starts to decline materially, a few good wells are brought in and it is again boosted up to around 250,000 bbls. daily. This has happened with unusual regularity.

Operations in this field were productive of several fair sized wells, but one in particular, the Marine Oil Co.'s No. 7 Thatcher, was the center of interest because of its future effect on the field. This well, one of the largest ever completed in this area, is of particular importance at this time because it was thought the day of large wells was over in the three principal fields. It was a recompletion, having been redrilled and deepened from 3,896 feet, its former production depth, to 5,070 feet. The well blew in and flowed at the rate of 8,000 bbls. a day for several hours before it was finally connected up by the Standard Oil Co. In addition to being the largest completion for some time, the Marine's No. 7 will be the cause of the redrilling and deepening of a large number of wells now standing idle in the immediate vicinity. The oil, which is clean and tests 24.6 degrees, is flowing through a 1-inch bean under a pressure of 310 pounds. In addition to bringing in this large well, the Marine Oil Co. completed No. 22 with an initial daily production of 3,000 bbls. The latter well was finished at 4,539 feet and is producing clean 28.3 gravity oil through a 7/8-inch bean under a pressure of 275 pounds. The Shell Oil Co. also completed two wells, the aggregate initial production being 3,100 bbls. daily. The largest contributor to the Shell's increase in production was No. 3-A Wilbur, which came in flowing 1,600 bbls. a day of 28.7 gravity oil with a cut of 1 per cent. The well was completed at 5,204 feet and is flowing through a 1 inch bean under a pressure of 600 pounds. The Shell's remaining new well was No. 9 Alamitos, which was brought in from 4,177 feet. It was good for 1,500 bbls. a day of clean 24.1 gravity oil. These two wells brought the company's production to approximately 48,000 bbls. a day.

Opens Field to South

Another important completion of the week was the McCreagor Oil Syndicate's well No. 2, which was brought in with an initial flow of 2,000 bbls. It was finished at 3,798 feet and is of particular importance because its completion as a producer moves what was considered the proven limits of the field several hundred feet south. The company's success with this well will probably result in the deepening of its No. 1, now pumping about 75 bbls. a day from the 3,800-foot level. By deepening No. 1 to approximately 4,500 feet, the company should secure a substantial well.

The Marine Oil Co. was not the only concern to complete a large well, the Trojan Oil Co. having finished redrilling and deepening its No. 1 Taylor from 4,088 feet, its former production depth, to 4,985 feet during the week. When the well was brought in the company was rewarded with a settled production of 4,000 bbls. a day of clean 25.1 gravity oil. The well, which was completed with a 4¾-inch oil string landed on bottom, is flowing through a 7/8-inch bean under a pressure of 350 pounds. It is located in the discovery area of the field, being only a short distance south of No. 1 Alamitos, the discovery well.

Well No. 3 on Keck Syndicate No. 5 was also recorded as a completion during the week, the initial production from 4,408 feet being 1,160 bbls. daily. The oil from this well, which is flowing through a ¾-inch bean under a pressure of 100 pounds, is clean and tests 26.2 degrees. The Keck Syndicate's well was slightly larger than the California Co-Operative Syndicate's well No. 2, another completion of the present week located just across the street. Well No. 2 of the California Co-Operative Syndicate made a little better than 1,000 bbls. a day of clean 24.1 gravity oil on a production test. It was drilled to 4,625 feet, a little deeper than the Keck Syndicate's well, and was completed with a 4½-inch oil string set at 4,427 feet.

The Petroleum Midway Co. augmented its production 300 bbls. daily during the week by putting No. 3 Davidson on the beam. This well, finished at 3,700 feet, is pumping about 300 bbls. a day of 20.1 gravtiy oil with a cut of 8 per cent. The latter is water and may possibly be exhausted by pumping. The company also encountered water trouble in its No. 1 Ellis, a deep well put on the pump at 5,174 feet. It is pumping about 100 bbls. of flluid a day, most of which is water.

Other Producers

The Acme Oil Co. had a little better luck and increased its production 2,000 bbls. a day by completing No. 3 Dameron after drilling it to 4,505 feet. It was completed with a 4¾-inch combination string and cemented through perforations at 3,280 feet. The oil, which is clean and tests 24.3 degrees, is flowing through a ½-inch bean under a pressure of 200 pounds. Walter H. Fisher completed a slightly larger well than the Acme's No. 3 Dameron, his No. 1 Boyer coming in at the rate of 2,600 bbls. daily. This latter well, which was swabbed in during the early part of the week, was a recompletion after being redrilled and deepened from 3,185 feet, its former production depth, to 4,938 feet. The oil from this well, flowing through a 1-inch bean under a pressure of 600 pounds, tests 26.8 degrees and shows a cut of 1 per cent. Although the Sherman Oil Co. drilled its No. 1 Decker to 5,281 feet and expected substantial production, the company was somewhat disappointed in the result obtained. The well is only making 375 bbls. a day and, although the production is small, the oil is clean and of an unusually high grade, 30.6 degrees. The Fred B. Foster Co. put its No. 48 on a production test after drilling it to 4,300 feet, but the best the well would do was 50 bbls. a day. It is pumping 23.6 gravity oil with a cut of 10 per cent.

Santa Fe Springs

Frequent completions are necessary to keep production up at Santa Fe Springs and the many new wells brought in during the past few weeks have had the effect of arresting the decline to some extent at least. The General Petroleum Co. featured the week by putting three wells on production, all of them, however, being small, the aggregate production being only 1,775 bbls. Two were new wells and the other a recompletion after being redrilled and deepened. The company's two new wells were No. 79-C and No. 86-C, both on the Santa Fe Community lease. The former, drilled to 4,710 feet, was brought in doing 750 bbls. a day of clean 33.4 gravity oil, while No. 86-C was completed at a shallower depth, 4,660 feet, and registered an initial production of 300 bbls. of 32.8 gravity oil with a cut of 5 per cent. The company's No. 91-A was redrilled and deepened from the Bell sand at 3,821 feet to the Meyer zone at 4,687 feet. Upon its recompletion, the well produced 725 bbls. of clean 33.1 gravity oil on a production test.

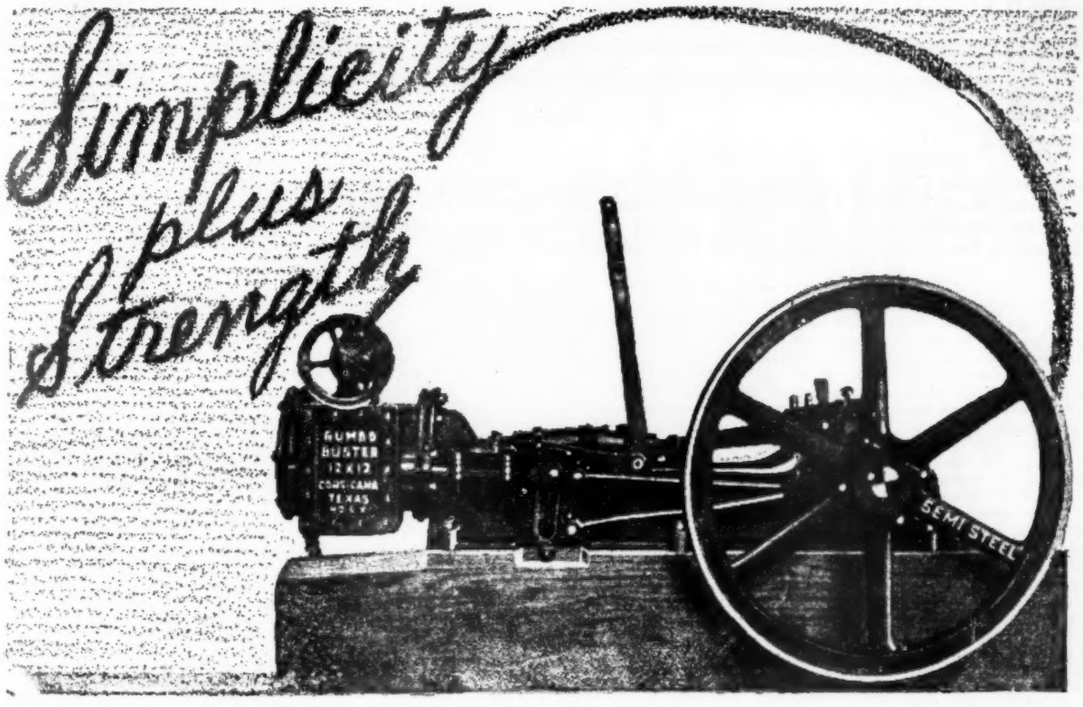
The Associated Oil Co. completed another well on its Clark lease during the past week and incidentally increased its production 2,500 bbls. a day. The oil from this well, No. 8, flowing through a 1-inch bean under a pressure of 400

(Continued on Page 95)

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Following is a list of tankers, date departed, destination, kind of cargo and amount in barrels:

San Joaquin (Nor.), November 5, Tampico, crude	75,000
William Rockefeller, November 5, New York, crude	130,000
S. B. Hunt, November 6, New York, crude	80,000
J. A. Bostwick, November 6, New York, crude	88,000
Frances E. Powell, November 7, Philadelphia, refined	78,000
Bethelridge, November 8, New York, crude	76,000
Durango, November 8, New York, crude	73,000
San Nazario (Br.), November 8, Tampico, crude	108,000
Mervania, November 8, New York, crude	74,000
Beaconlight, November 8, Boston, crude	70,000
District of Columbia, November 10, Fall River, crude	80,000
Byron D. Benson, November 10, New York, crude	85,000
San Valerio (Br.), November 10, Tampico, crude	65,000
Coastwise	
H. T. Harper, November 5, Point Wells, refined	25,000
Montebello, November 6, Oleum, crude	77,000
W. S. Miller, November 7, Richmond, crude	74,000
Hulaco, November 7, Avon, crude	78,000
Lubrico, November 7, Richmond, crude	79,000
J. A. Moffett, November 8, Richmond, crude	64,000
R. J. Hanna, November 8, Richmond, crude	79,000
La Purisima, November 8, San Diego, refined	7,500
Col. E. L. Drake, November 9, Astoria, refined	20,000
Los Angeles, November 9, Oleum, crude	75,000
La Placentia, November 9, Martinez, crude	76,000
Liebre, November 10, Seattle, fuel	75,000
La Purisima, November 10, Seattle, refined	30,000
Lubrico, November 11, Richmond, crude	81,000
Montebello, November 11, Oleum, crude	78,000
Exports	
Belridge (Nor.), November 6, Japan, fuel	63,000
From San Francisco	
Kewanee, November 5, Astoria, fuel	22,000
Atlas, November 6, Eureka, refined	17,820
Charlie Watson, November 6, Tacoma, refined	17,142
Tejon, November 7 Seattle, fuel	54,000
W. S. Miller, November 11, Honolulu, fuel	72,000
From Monterey	
Frank H. Buck, November 6, Astoria, fuel	60,000
From Port San Luis	
Utacarbon, November 9, Seattle, fuel	78,000
From Ventura	
Oleum, November 8, Oleum, crude	35,000



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Gulf Coast Oil Operations

By P. L. McGreal

Gulf Production Co.'s No. 4-A Harrison, Hull Pool, flows 1,000 bbls. Russell & White's No. 1 Wolcott, Laredo, rated at 200 bbls. and Aztec Oil Co.'s No. 1 Aviation, 100 bbls. initial. Three wells making 45 gravity attract attention. Magnolia's No. 2 deepened, making 175 bbls., quoted at $2 a barrel.

HOUSTON, Tex., Nov. 19.—While a more optimistic feeling prevails in the Gulf Coast, operators hesitate to start any new work until some evidences of permanency in the general situation is shown. Production in the Coastal pools has been reduced to the lowest figures for years and the opinion is general that no further price cuts will be made. However, the question of an advance in credit balance quotations is dependent upon conditions in other producing regions. Decreases in the daily average output of the California and Powell fields are looked upon as favorable omens.

Stocks of coastal crude in steel and earthen storage aggregate 17,622,000 bbls., a slight increase for the month, indicating the market demand for this heavy gravity grade is still below normal at this time of year. Coastal crudes are being replaced with heavy gravity California grades at the Atlantic Coast refineries and, this, coupled with a slow market for lubricating oils, is responsible for the accumulated stocks in these pools.

The water shipments of the Humble Oil & Refining Co. from its Texas City terminals offer an illustration of the decline in the demand from Atlantic refineries. During October that company sent out one cargo of 66,222 bbls. No West Columbia crude was moved during September. During August the tanker shipments totaled 135,215 bbls., the highest for nearly one year. Going back to July 68,545 bbls. were consigned to Atlantic seaboard refineries. Previous to the big production on the Pacific Coast the water shipments by the Humble company of coastal crude averaged from 400,000 to 800,000 bbls. per month. The same proportionate decline is noted in the consignments of the other shippers.

Estimated Daily Gross Production

The estimated daily average gross production in the Gulf Coast, the southwest fields and Milam County shallow sand district, is placed at 95,930 bbls., compared with an estimate of 96,155 bbls. for last week, or a decline of 225 bbls. The estimate for the Gulf Coast alone is placed at 89,200 bbls. against 89,305 bbls. last week. The estimate for the Luling Field is 9,000 bbls.

The following shows the gross for each district:

District—	Bbls.
Batson	1,120
Blue Ridge	730
Barber Hill	345
Dayton	60
Damon Mound	1,860
Edgerly (La.)	415
Goose Creek	13,440
Humble	5,550
Hull	21,075
Jennings (La.)	715
Markham	105
Orange	15,250
Pierce Junction	640
Spindletop	820
Saratoga	1,810
Sour Lake	5,075
Somerset & Piedras Pintas	3,060
Vinton (La.)	5,810
Welsh and Anse La Bute	80
West Columbia	14,300
Miscellaneous, includes Laredo Milam County, Big Creek, Big Hill, etc.	3,670
Total	95,930

Few Completions

Completions were few and far between this week and hold no special significance, except in the case of the American National Oil Co.'s No. 1 Winifree, which is an effort to extend the Orange Pool 1 mile to the north and east. It bailed salt water at 3,450 feet with strainer set in 15 feet of sand. The hole will be deepened. In the same pool, the Sun Oil Co.'s No. 2 Brown, southeast of production, is bailing at 4,500 feet, strainer being set in 28 feet of sand. On State land in Cow Bayou, south of the county bridge, the Rycade Oil Co.'s No. 3-C is flowing 1,500 bbls., 50 per cent oil at 4,200 feet.

In the Hull Pool, on the northwest side of the dome and out in the flats, the Humble Oil & Refining Co.'s No. 1 Taylor fee has increased to 650 bbls. by heads. It came in October 20 at 4,240 feet making 150 bbls. and has since increased without showing any water. The Gulf Production Co. is erecting an electrical pumping plant in the Hull Pool, capable of handling 60 wells and 30 electric pumps. It will be ready for operation about the first of the year. Similar electric plants are in operation in the West Columbia, Goose Creek, Orange, Vinton and Powell Fields. The plant is being constructed under the supervision of J. H. Russell, chief engineer for the company.

The Rio Bravo Oil Co. has a location for No. 105, northwest from No. 104-B, which recently extended the pool 1,500 feet to the north. It is pumping 75 bbls. The Vacuum Oil Co. has a location on 600 acres on the southwest side of the pool.

The Humble Oil & Refining Co.'s No. 1 Smith on the northwest side of the West Columbia Pool, is standing at 3,286 feet with fluid within 600 feet of the top. The well will not flow and will be put on air. It shows some salt water.

Rich and associates are setting casing in No. 1 Ahlers, south of the production in the semi-pool at Big Creek in Fort Bend County. Screen will be set and 30 feet of sand will be tested. The Gulf Production Co. and Snowden & McSweeney jointly are rigging Nos. 8 and 9 Davis there, north of production. The Gulf Production Co. started No. 2 Boling, the new dome in Wharton County. The Texas Exploration Co.'s No. 13 Warren, at Hockley, another dome in the northwestern part of Harris County, is pumping 10 bbls. at 1,752 feet. It made 200 bbls. by heads flush and then dropped off.

Hull Pool

The Gulf Production Co.'s No. 4-A Harrison on the northwest at Hull is flowing 1,000 bbls. pipe line oil at 2,575 feet. On the north side, the Yount-Lee Oil Co.'s No. 5 Stengler will make a pumper at 3,225 feet. On the east side the Republic Production Co.'s No. 17 Dolbear, a workover, is flowing 700 bbls. at 2,510 feet. It is free from sediment. Same company's No. 41 Dolbear, another workover, is showing oil at 2,560 feet.

The Republic Co. is deepening Nos. 7 and 59 Dolbear and rigging to to start drilling No. 73 Dolbear, with derricks up for Nos. 72 and 74. The last three are new wells. On the southwest side of the dome, The Texas Co. and Vacuum Oil Co.'s No. 1 joint Hannah is deepening from 2,660 feet. On the west side, the Monarch Oil & Refining Co.'s No. 7 Abel is shut down at 1,025 feet. On the northwest, the Monarch's No. 2 Miller is washing to the bottom of the hole at 3,740 feet and No. 3 Miller is fishing at 2,750 feet. The Mecom Oil Co.'s No. 3 Mecom is working over at 3,200 feet. The Link Oil Co.'s No. 4 Rivere is deepening at 3,100 feet. The Houston Production Co.'s No. 7 Taylor is rigging and the Higgins Oil & Fuel Co.'s No. 1 Merchant is deepening. Over on the south side of the hill, the Sun Oil Co.'s No. 9 Carr is drilling deeper at 1,435 feet.

In addition to the wells already mentioned in the Orange Pool, the Kishi Development Co.'s No. 2 Smith-Foreman is a 15-bbl. pumper at 3,180 feet and the Monarch Oil & Refining Co.'s No. 1 Mecom also 15 bbls. at 3,425 feet. The Mutual Oil Co.'s No. 5 Chesson is bailing at 3,380 feet, after being deepened.

On the east side of Cow Bayou, the Gulf Production Co.'s No. 13 Hager fee is below 1,560 feet and No. 14 is rigging. The company is deepening No. 3 Pevito in the old part of the pool. The Atlantic Oil Producing Co.'s No. 2 Hager is deepening at 3,675 feet. On the north side, the Mutual Oil Co.'s No. 6 Chesson is drilling at 3,325 feet. To the northeast, the Sun Oil Co.'s No. 2 Kato is below 3,450 feet. The Supreme Oil Co.'s No. 1 Jackson is drilling deeper below 4,350 feet.

In the Goose Creek Pool, the Humble Oil & Refining Co.'s No. 26 Galliard Peninsula will make a pumper at 4,375 feet. Some company set screen in No. 52 Smith at 2,550 feet. The Gulf Coast-Crown Oil Co.'s joint No. 18 Galliard is a 35-bbl. pumper at 3,070 feet. The J. R. Copeland Oil Co.'s No. 1 on Spillman Island, across the bay from the pool, is bailing at 4,680 feet. It does not look promising for a well.

Near the mouth of the creek, the Gulf Production Co.'s No. 6 Chapman-Bryan is drilling below 4,100 feet. Same company is rigging No. 2 Hirsch as an offset to Perryman and others' No. 4 Bryan. The Humble Oil & Refining Co.'s No. 10 Tabb is below 3,300 feet and the Gulf Coast-Crown Oil Co.'s No. 39 Galliard is fishing for the drill stem at 4,725 feet.

At West Columbia, The Texas Co. is deepening No. 52 Hogg at 3,600 feet and putting No. 53 Hogg on the pump at 3,700 feet. The Humble Oil & Refining Co.'s No. 1 Robinson is deepening at 3,224 feet.

Other Pools

The Humble Oil & Refining Co. abandoned No. 3 Whitehead at Pierce Junction in salt water at 3,665 feet. Its No. 6 Fitzsimmons is drilling deeper at 3,224 feet. The Sun Oil Co.'s No. 1 Ritter on the north side, is drilling below 3,790 feet.

At Blue Ridge, the Mutual Oil Co.'s No. 1 Booth is going on the beam after being drilled deeper to 3,900 feet. Its No. 1 Bute is drilling below 1,650 feet. The Texas Co. is rigging No. 11 Robinson. These are all on the west side of the dome.

The Texas Co.'s No. 272 fee in the Sour Lake Pool is drilling below 2,465 feet and the Quinn Oil Co.'s No. 1 Cannon around 975 feet. Paggi Brothers set 8¼-inch casing in No. 4 Lewis at 1,140 feet at Saratoga and has a location for No. 1 Todd.

In the Batson Pool, the Deutser Oil Co.'s No. 5 trustee is below 760 feet and the Ada Bell Oil Co.'s No. 44 Parafin is drilling at 954 feet. The Rycade Oil Co.'s No. 2 McFadden at Spindletop, a deep test, is sidetracking at 3,365 feet. Wilson-Broach Co.'s No. 3 McFadden there is drilling below 576 feet. In the Markham Pool the Rylcade Oil Co.'s No. 1 Myers is deepening at 2,540 feet with a location for No. 2 Hudson.

South Louisiana

In the Vinton Pool, the Gulf Refining Co.'s No. 30 Star is being drilled deeper after testing at 1,950 feet and getting salt water. The Vinton Petroleum Co.'s No. 11 Rescue is a gasser at 2,155 feet.

The Edgerly Petroleum Co.'s No. 1 Gray is drilling at 2,655 feet and No. 1 Vincent at 876 feet. The Texas Co.'s No. 23 Gray is below 1,564 feet and No. 3 Lee deepening at 2,354 feet. The Just Oil & Refining Co.'s No. 2 Lyons is at 1,165 feet and the Gulf Coast Oil Co.'s No. 5 at 1,780 feet. The Vinton Petroleum Co.'s No. 23 Gray is drilling below 2,390 feet.

In Lafayette Parish, the Coret Oil Co. is starting No. 1 Pashura, Section 8-9-5. R. E. Brooks, Jr., is starting No. 1 Frye, Section 22-6-2w, in Evangeline Parish. The Vacuum Oil Co.'s test at Westlake, Calcasieu Parish, is shut down around 1,400 feet.

Coastal Wildcats

The South Dayton Oil Co. will deepen No. 1, south of Liberty in Liberty County, after testing at 3,001 feet. The Freeport Sulphur Co. is rigging No. 12 Dannebaum on the northeast side of the Stratton Dome in Brazoria County. It is located 300 feet west from No. 11, which is pumping 175 bbls. per day. The Fairchild Petroleum Co. and Royalty Oil Co.'s two tests there are standing idle.

The America Oil Co.'s No. 1, near Hempstead, Waller County, is drilling below 3,025 feet. The company is drilling tests in various parts of the State. C. H. Carter, of the Carter Ink Co., is the president. The Texas Exploration Co.'s No. 15 Warren at Hockley, on the north side of the dome, is drilling below 1,700 feet.

In Medina County, Wolff and associates cored a sand showing oil in a test 3 miles southwest of the two small shallow wheels of the Ina Oil Co. on the Durst lease. The Wolff test is at 900 feet. It is on the Moefield land. The California-Medina Oil Co.'s No. 1 Rothe is drilling below 2,000 feet. The B. J. K. Co. has spudded in No. 1 Adams. Other tests drilling in that county are McBride Drilling Co.'s No. 1 Adams, Smith & Donaldson's No. 1Wilson, Medina Oil Co.'s No. 1 school land and O'Bryan and others' No. 1 Nixon. The Wooley Hill Oil & Gas Co.'s No. 1 Martin is shut down.

A number of tests have been abandoned in the far western part of the State. In Reeves County, the Los Pecos Syndicate's No. 1 Oates quit at 725 feet and the Hawkeye-Pecos Oil Co.'s No. 1 Texas & Pacific land at 825 feet. The Pecos-Los Angeles Co. abandoned No. 1 Valley at 1,400 feet and the Tatum Lease Syndicate got down 150 feet and moved off.

In Crockett County, the Esco Oil Co.'s No. 1 Murphy is drilling below 400 feet. The Crockett Drilling Co.'s No. 1 Shannon is at 1,475 feet and No. 1 Massie is idle at at 510 feet. The Magnolia Petroleum Co. is reported to have taken up 20,000 acres in that county on the Marathon fault at 10 cents per acre bonus.

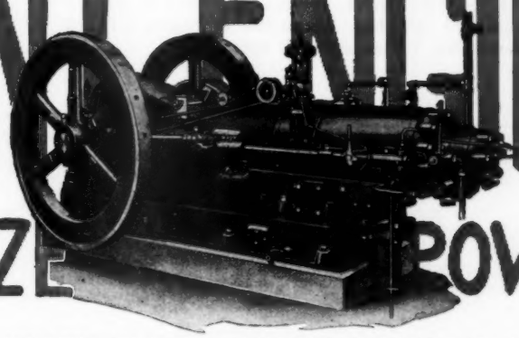
The Texon Land & Development Co.'s No. 1 well near Santa Rita, Reagan County, is reported making 24 bbls. per day and showing water. No. 2, located 800 feet west, is fishing for 8¼-inch casing at 2,785 feet and No. 3, located 800 feet north, went into rock salt from 1,140 to 1,480 feet.

Milam County

Runs from the shallow sand Rockdale-Minerva district during October total 19,293 bbls., or an average of 640 bbls. per day, which is about 20 bbls. per day less than during September. The Owens

(Continued on Page 68)

HOW GIANT ENGINES MINIMIZE POWER COSTS



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North Louisiana-Arkansas

By M. L. Vaughn

New pool in Webster Parish, Louisiana, suggested by transfers. Brewer & Sewell's No. 1 Sharp, 12 miles from Shreveport, promising. Hall & Gann's No. 2 Graves, Union County, makes 1,200 bbls.; Barnsdale & Foster's No. 2 J. Murphy, 650 bbls., and J. Marr's No. 1 Murphy, 800 bbls.

SHREVEPORT, La., Nov. 19.—Gains in all areas of South Arkansas and three areas of North Louisiana exceeded losses in the other areas to the extent that an aggregate gain of 8,325 barrels is shown in daily pipe line runs for the past week. The heavy Smackover area was responsible for the great majority of this increase with 6,220 bbls. to its credit assisted principally by a gain in Calion production of 1,340 bbls. The distribution is as follows:

North Louisiana	
Caddo, light	8,700
Caddo, heavy	2,460
De Soto-Red River	5,455
Elm Grove	1,055
Haynesville	23,640
Homer	9,170
Bellevue	6,485
Total	56,965
South Arkansas	
El Dorado	11,530
Calion	7,855
Smackover, light	17,760
Smackover, heavy	90,145
Stephens	2,795
Total	130,085
Total both areas	187,050
Total last week	178,725
Increase	8,325

New Pool in Webster Parish

Faith in the belief that a new pool has been uncovered in Webster Parish in the Cotton Valley vicinity is evidenced by the reported transfer of the mineral rights in 2,120 acres of land in Township 21, Range 10, to the Humble Oil and Refining Co., by Dr. R. D. Webb, of Minden, with a consideration stated to have been $1,100,000 of which $350,000 was in cash. The figures are not confirmed by the Humble representatives although the transfer is unquestionable. This is a sequel to the completion of the Oil Fields Gas Corporation's No. 1 Merritt, in Section 18-21-10, with 25,000,000 feet of gas and spraying oil, and which is almost generally conceded to have established the presence of oil in commercial volume in that area.

While it has been impossible to make a personal inspection of the well there are corroborative evidences that the Brewer and Sewell operation. No. 1 Sharp, Section 15-18-16, only 12 miles from the business section of Shreveport gives every indication of oil production. It was expected that washing would be completed and liner set from 6-inch seat at 2,090 feet to the point at which 14 feet of sand is reported to have been found at 2,406 feet for a test, but some delay was experienced and the test may be deferred two or three days.

Fire Loss at Smackover

Fire was responsible for a property loss of $77,500 in the business section of Smackover, all of which is total, due to the fact that no insurance was available. There were two fires during the day, the most serious of which started at 5:45 p. m., destroying 15 buildings, among which were the postoffice, five business houses and a moving picture theater. Live wires falling resulted in injuries to five members of the fire department and a number of spectators and the fire gained ascendancy over the efforts of the firemen owing to a 20-minute period of low water pressure, but was brought under control at 8 p. m.

An explosion in a clothes pressing establishment of a gas-heated steam pressing machine with which the operator was experimenting originated the fire and he and a customer suffered slight burns. In additinn to the loss of its building the Joy theater suffered the loss of $700 In addition to the loss of its building the that of their clothing and personal effects in the destruction of the Joy apartments.

Smackover District

Union County completions: Thirteen producers with an aggregate initial production of 3,945 bbls. were completed in the Union County area of the Smackover Field during the past week. Five holes were abandoned, two of them without tests having been made. The best well was brought in by Hall & Gann and was No. 2 Graves, Section 3-16-15, swabbing 1,200 bbls. from 1,985 feet. Barnsdale & Foster are swabbing 650 bbls. from No. 2 J. Murphy, Section 17-16-15, completed at 2,085 feet. The Constantin Oil & Refining Co. abandoned No. 2 Trimble, Section 1-18-16, at 2,914 feet.

The Federal Petroleum Co. brought in No. 2 Hicks, Section 20-16-15, pumping 65 bbls. from 2,080 feet and No. W-5 Wells, Section 15-16-15, pumping 150 bbls. from 2,005 feet. The Higgins Oil & Refining Co. completed No. 1 Jameson, Section 21-16-15, at 2,060 feet pumping 275 bbls. Lemon and others abandoned No. 1 Moore, Section 33-18-17, at 2,192 feet. Livingston and others completed No. 2 Roper, Section 3-16-15, at 1,975 feet pumping 200 bbls. from 1,975 feet. J. Marr is swabbing 800 bbls. from No. 1 J. Murphy, Section 17-16-15, completed at 2,117 feet and the Marr Oil Corp. brought in No. 2 Moody, Section 17-17-14, flowing 200 bbls. from 2,172 feet. The Morris Drilling Co. completed two small pumpers in Section 33-15-16: No. 4 Johnette at 1,990 feet with 15 bbls. and No. 6 Johnette at the same depth, with 10 bbls. In the same section they abandoned No. 6 Johnette at 500 feet and in Section 5-16-13 abandoned No. A-2 Oran at 983 feet.

The Pure Oil Co. completed No. 2 Craig, Section 15-16-15, pumping 115 bbls. from 2,015 feet. Smitherman & McDonald's No. A-3 Saxon, Section 32-15-16, is flowing 250 bbls. from 2,255 feet. The Sun Co. abandoned No. 1 McElroy, Section 15-16-16, at 2,545 feet. Nye Wilson completed No. 1 Johnette, Section 33-15-16 pumping 15 bbls.

Drilling

New operations failed by a large majority to keep pace with completions as a result of which the summary of drilling operations for this area shows a loss of over 11 per cent in active operations. Only three new operations are in evidence and a location upon which derrick had been erected is abandoned and will not be drilled. This is No. A-3 Oran, Section 5-16-15, in which the Morris Drilling Co. also abandoned No. A-2 Oran at a depth of 963 feet, without test.

Barnsdale & Foster set 6-inch at 2,005 feet in No. 3 J. Murphy, Section 17-16-15. Bondurant and others are drilling in shale at 880 feet in No. 1 Tuberville, Section 9-18-12. Browder and others are drilling at 1,210 feet in No. 1 Burns, Section 17-16-15. Burton and others are drilling in gumbo at 1,800 feet in No. 1 Smith, Section 19-16-15.

Caldwell and others set 6-inch at 1,980 feet in No. 1 Murphy, Section 17-16-15. Chew and others set surface 12½-inch and have drilled to 1,275 feet in No. 1 Harrell, Section 17-16-15. The Constantin Oil & Refining Co. is drilling at 850 feet in No. 3 Hinsen, Section 7-18-15. J. E. Crosby is bailing to test at 2,035 feet in No. 1 Harrell, Section 17-16-15, standing with 600 feet of oil in hole and 18 feet of sand.

Estes and others are building derrick for No. 1 McGraw, Section 1-16-17.

The Federal Petroleum Co. set surface 10-inch and drilled to 500 feet in No. 1 W. H. Murphy, Section 22-16-15. In Section 28-17-12 it is reaming to bottom at 2,945 feet in No. 2 Union Saw Mill.

Garrett and others are drilling in lime at 2,000 feet in No. 1 Robinson, Section 23-18-14. The Gulf Refining Co. is rigging up to drill No. 3 J. G. Murphy, Section 17-16-15.

Harrell and others are running core barrel at 1,295 feet in No. 1 Tule, Section 11-19-12. The Higgins Oil & Refining Co. is waiting on standard rig at 2,065 feet in No. 2 Jameson, Section 21-16-15. Y. E. Hildreth has No. 1 Smith waiting for orders after plugging back to 2,265 feet in No. 1 Smith, Section 2-16-17, with the hole full of salt water. The Humble Oil & Refining Co. is arranging to drill in after setting 6-inch at 1,897 feet an ddrilling to 1,905 feet in No. 1 E. G. Murphy and set 6⅝-inch at 1,905 feet in No. 2 Murphy, Section 14-18-15 and is drilling in gumbo at 2,100 feet in No. 2 Saxon, Section 32-15-16. The Humphries Petroleum Co. shot casing at 2,060 feet in No. 1 Ramsey, Section 17-16-15 securing a small show of gas. Hunt and others are waiting on 4½-inch to set at 2,240 feet in No. 1 Primm, Section 1-16-16, completed in December, 1922, with 20,000,000 feet of gas from 64 feet of sand.

The Magnolia Petroleum Co. is bailing to test at 2,370 feet in No. 2 Campbell, Section 13-16-17, with 8 feet of sand. In Section 8-17-14 is drilling in shale at 1,310 feet in No. 5 Moody and has No. 1 Neely standing 1,800 feet in oil at 2,295 feet with 5 feet of sand and is arranging to bail. The Murphy Trustees have 4½-inch stuck and are waiting on 2½-inch drill stem for No. 2 Lawton, Section 7-16-15, at 2,310 feet.

The National Gas & Petroleum Co. plugged back to casing seat at 2,230 feet in No. 1 Primm, Section 1-16-16 to cut off salt water and is rigging up to deepen No. 1 Murphy, Section 17-16-15 from 2,040 feet in No. 1 Murphy, completed by the El Dorado Natural Gas Co. in July, 1923, with 40,000,00 feet of gas.

Page and others set 6-inch at 1,925 feet in No. 1 Alphin, Section 23-16-15. The Penguin Oil Co. set 6-inch at 2,020 feet in No. 2 Harrell, Section 17-16-15. The Roxana Petroleum Co. is rigging up to drill No. 4 Wells, Section 15-16-15.

The Standard Oil Co. set 6-inch at 1,980 feet in No. 10 Alphin, Section 11-16-15; is moving rig on to No. 1 Lingelback, Section 22-16-15; is bailing at 2,280 feet in No. B-1 Saxon, Section 5-16-16 and has derrick up for No. B-3 Saxon in the same section and set surface 10-inch in No. C-1 Saxon, in the same section, and has drilled to 1,635 feet. The Sun Oil Co. is rigging up to drill No. 4 Hays, Section 3-16-15.

Tarver and others are rigging up to drill No. 1 Childs, Section 8-16-16. The Texas Co. set 6-inch at 1,927 feet in No. 2 J. G. Murphy, Section 22-16-15. The Tidal-Osage Oil Co. set surface 10-inch and has drilled to 1,410 feet in No. 2 Vestal, Section 17-16-15. Weatherbee and others set 6-inch at 1,835 feet in No. 1 Holloway, Section 6-16-16 and are drilling at 1,880 feet in shale.

Ouachita County Completions

Fifteen completions without a failure netting a total of 2,125 bbls. was the record made in the Ouchita County area of the Smackover Field in the way of initial new production for the week. All were in the Louann vicinity and none were of unusual productiveness, the best being credited with only 300 bbls. All were flowing wells.

Burch-Walker completed No. 1 Fee, Section 30-15-16, with 175 bbls. from 2,285 feet.

The El Dorado Union Oil Co. brought in No. 1 Shirley, Section 30-15-16, with 200 bbls. from 2,285 feet and No. 1 Smith, Section 36-15-17, with 100 bbls. from 2,300 feet.

The Forest Oil Co. completed No. 2 Hardin, Section 28-15-16, with 60 bbls. from 2,290 feet, and No. 1 Minore, Section 29-15-16, with 75 bbls. from 2,275 feet.

Hunt and others completed No. B-1 Myar, Section 30-15-16, with 150 bbls. from 2,280 feet.

Johnson and others completed No. 2 Fincher, Section 29-15-16, with 100 bbls. from 2,290 feet.

The Magnolia Oil Co. completed No. 1 Patton, Section 32-15-16, with 300 bbls. from 2,255 feet and No. 2 Smith, Section 31-15-16, with 175 bbls. from 2,250 feet.

The Pace Trustees brought in No. 1 Watts, Section 30-15-16, with 150 bbls. from 2,270 feet.

The Simms Oil Co. completed No. 3 Hildebrand, Section 28-15-16, with 100 bbls. from 2,030 feet. The Smith Refining Co. completed No. 1 Lagrone, Section 30-15-16, with 180 bbls. from 2,280 feet. Solmson and others completed No. 1 Fee, Section 30-15-16, with 10 bbls. from 1,980 feet. The Sun Oil Co. completed No. 1 Patton, Section 31-15-16, with 200 bbls. from 2,600 feet.

The V. K. F. Drilling Co. completed No. 1 Patton, Section 23-15-16 with 150 bbls. from 2,260 feet.

Drilling Operations

Although a number of new operations are shown in this area the summary of active work shows a considerable decline in activity, the new operations failing by a considerable markin to equal completions.

The Arkansas Natural Gas Co. set 10-inch surface casing and drilled to 500 feet in No. 2 Patton, Section 31-15-16 and in Section 30-15-16 is rigging up to drill No. 3 Patton. Bray-Hawthorne are drilling in shale at 2,000 feet in No. 1 Halford, Section 20-14-16. In Section 31-15-16 they are rigging up to drill No. 4 Patton. Doctor Clark is rigging up to drill No. 1 Barry, Section 24-15-17. The Eldorado Union Oil Co. is rgiging up to drill No. 2 Shirey, Section 30-15-16, and No. 2 Smith, Section 36-15-17.

The Forrest Oil Co. is arranging to test 38 feet of sand at 2,295 feet in No. 5 J. A. Cramer, Section 27-15-16. This well was completed in May, 1923, with an estimated production of 300 bbls. and was deepened from 2,068 feet. In Section 22-15-16 it is bailing to test at 2,265 feet in No. 3 Hardin, standing full of oil.

Giles and others are building derrick for No. 2 Watt, Section 30-15-16. The Gulf Refining Co. is drilling in shale at 2,575 feet in No. C-1 J. H. Dawson, Section 10-15-18. In Section 29-15-16 it is rigging up to drill No. 1 Solmson, formerly reported Minor No. 1. In Section 31-15-16 it is rigging up to drill No. 1 W. F. Patton.

L. K. Hamilton has derrick on location for No. 1 Patton, Section 31-15-16. J. L. Hines is arranging to test 26 feet of sand

(Continued on Page 92)

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Fields of the Central West

By Whit

Davis & Carroll get 50-bbl. well in Wood County, Ohio, opening promising area. Ohio Oil Co. has 30-bbl. pumper in Hancock County. Shiloh-Mansfield gas area attracting attention. Union Oil & Gas Co.'s No. 4 E. H. Skagg, North Weir Field, flows 20 bbls. Eastern Kentucky road improvement.

FINDLAY, Ohio, Nov. 19.—The recent cut in the credit balance market in the Central West Field is having its effect in most of the territory. The only fields making any showing were the old Lima Field and the new gas area recently opened in the northern part of Richland County and the southern portion of Huron County, in the Central Ohio Field. Illinois and Indiana failed to report any completions while eastern Kentucky only reported three. Western Kentucky, including Cumberland, Monroe, Russell and all counties west of those, have but few wells to report, and it looks as though the operators have given up continuing work during the winter.

The old Lima Field of northwestern Ohio reports more wells than all the other fields outside of western Kentucky, 15 being credited to the Lima Field. Some while not large, are very important and but one failure out of that number is an encouragement for active work. There is talk of the organization of an association similar to the Pennsylvania Grade Crude Oil Association, but it is doubtful if this could be brought about because operators in the old Trenton fields are scattered over many other fields, where larger production is being found. The average operator thinks well of the organization of the Pennsylvania association and that it will improve conditions in that field and at the same time help other fields of the East. Every operator east of the Mississippi River is losing money at this time, as the wells are very small and a large part of the leases do not produce enough crude to pay the pumper.

The best completion of the week in the Lima Field was Davis and Carroll's test on the southeast corner of the C. S. Spilker mapped as the Alex Beard farm, in the northeast quarter of Section 33, Perrysburg Township, Wood County, on the east side of the Toledo and Ohio Central Railroad, close to a mile northeast of the town of Dowling and between Bowling Green and Toledo. The well showed a production of 50 bbls. at a depth of 1,295 feet and makes that overlooked area show very promising. In Middleton Township, same county, the Five Points Oil Co.'s No. 5 on the southeast corner of the W. E. Bruce, Section 20, pumped 13 bbls. from 1,284 feet.

In Union Township, Hancock County, the Ohio Oil Co. drilled in a 30-bbl. pumper at No. 15 on the Phillip Schwinn, Section 25. This shows that there is still some good producing territory among the old wells of years ago.

Some good producers are being found in Allen County of late. In Bath Township, C. A. Peavey and others' No. 7 Elias Lewis, Section 1, is credited with 20 bbls. Top of sand found at 1,316 feet and oil at 32 feet in the sand. In Marion Township, the National Petroleum Corp.'s second test on the southwest corner of the Frank Etzkorn, Section 10, pumped 20 barrels.

In Douchouquet Township, Auglaize County, Lang & Kirk drilled a dry hole in a test on the J. Zink, Section 17. In Logan Township, W. B. Jack's second well on the Alice Young, Section 32, pumped 15 bbls.

Mercer County, with its good prospects, is not showing the activity it did during the summer, but will eventually show greater activity. In Liberty Township, meager reports are that fairly good wells have been recently completed, one on the Brehm Bros. farm, Section 9, and another on the John Brehm, Section 10, both being owned by the Celina Petroleum Co. No report has been forthcoming from the test well drilling by the O. C. Fink Oil Syndicate on the J. Bollenbacher farm, Section 8, Liberty Township.

In Hopewell Township, Mercer County, the B. Y. J. Oil Co.'s test on the southwest corner of the John Regedanz, Section 21, is reported at 4 bbls. C. M. Mayhugh's test on the southwest corner of the Adam Brown, Section 27, pumped 10 bbls. The June Oil Co.'s No. 1 on the southwest corner of the J. Tilton, Section 28, is credited with pumping 15 bbls.

In Granville Township, Mercer County, V. G. Lowery and others' No. 4 on the southwest corner of the Stephen Wendell, Section 19, pumped 16 bbls. H. J. Thompson and others' second test on the J. Lonhenkamp, Section 19, pumped 15 bbls. This is on the east part of the George Miller farm, nearly 2 miles west of St. Henry.

In Recovery Township, along the Granville Township line, about 4 miles east of Fort Recovery, in Mercer County, M. F. Newcomer and others' No. 5 on the M. F. and E. W. Necomer farm, mapped as the John Frank farm in the southeast quarter of Section 24, pumped 4 bbls.

In the Tiffin Field, in Clinton Township, Seneca County, Arthur Geyer and others' second well on the southwest corner of the Ida Geyer, in the southeast quarter of section 30, pumped but 2 bbls. This well has been under way for a long period. The top of the Trenton was found at 1,603 feet and drilled 290 feet in to a total depth of 1,893 feet.

In the Elmore Field, in Harris Township, Ottawa County, and about 20 miles southeast of Toledo, the Zorn-Hornung Co.'s No. 6 on the southeast corner of the William V. Schott, Section 20, pumped 7 bbls. from a depth of 1,330 feet.

Word comes from the Paragon Refining Co. of Toledo, of its completion of the Paragon Development Co.'s pipe line from Glasgow to Neeley's Ferry in Cumberland County, Kentucky, a distance of about 45 miles. The line will give big relief to the operators in the Cumberland-Monroe County fields, where it is estimated at least 80,000 bbls. of crude is stored in lease tanks and other storage facilities. The Paragon will ship this oil by rail from Glasgow, Ky., to its big refining plant at Toledo, Ohio.

Central Ohio Field

Just now there is unusual excitement in the Shiloh-Mansfield Pool, in northern Richland County, and southern Huron County, in the northwestern corner of the Central Ohio Field, between Mansfield and Norwalk. It is only within the past few days that the large gas companies have got busy in the new area. The gas is found in the Niagara limestone. The well of Coyle & Matthews on the Niffen farm, Section 1, Cass Township, Richland County, the discovery well, showed 2,786,000 feet when gauged. This well was completed three months ago at a little less than 2,500,000 feet and is larger now, after being connected to pipe line for two months.

The largest gas well found in the Shiloh Field was just drilled in by the well known Cleveland firm of Hulse & Koontz in No. 1 Dan Miller farm, Section 1, Cass Township. This well blew two packers from the hole and it was with difficulty the drillers shut it in. It shows 3,000,000 feet. C. E. Ozier and others drilled in a 1,000,000-foot well in their second test on the Samuel Seeman farm, Section 1. This makes 22 producing wells for the field without one dry hole in the field proper. The Hulse & Koontz well is the farthest southeast and indicates the trend. C. S. Ozier and others are drilling No. 3 on the Sam Seeman, Section 1.

George VanTilburg is drilling a well on a 7-acre tract, offsetting his No. 1 Sarah Gilger, in Section 2, Cass Township. W. S. Bradford and others are drilling on the Steele & McBride, in Section 2, and Hulse & Koontz are drilling No. 1 O. Culver, Section 1, Cass Township. Coyle & Matthews are drilling No. 3 Niffin, same section. Three wells southeast of Shiloh are practically in a completed stage. Three or four wells are drilling across the line to the north in Ripley Township, Huron County, but no data have been received from their locations.

Considerable acreage has changed hands in the new gas belt as the larger companies realize the small cost of the wells compared to those in the deep Clinton sand and their staying qualities. The new strikes have attracted the attention of the operators around Mount Vernon, and they are scoring the field for leases.

The National Supply Co. has leased a room of Dr. Noble at Shiloh and will put in a supply of material. The Jarecki Supply Co., already has a line of supplies at Shiloh.

The well of Moore, Wright & Thompson, drilling approximately 5 miles from the Cass Township Pool, on the J. Zellers farm, Section 31, Bloomingrove Township, Richland County, proved dry at 1,150 feet. George Lacknett also drilled a dry hole in a test on the Frank Fackler farm, Section 24, Cass Township.

Eastern Kentucky

While oil operators are doing little drilling in eastern Kentucky, they are much enthused over the fact that better highways are to exist in the near future and the Mayo Trail is to be completed, work starting in the early spring. An enthusiastic meeting was held recently at Prestonburg, Floyd County, to make arrangements for the completion of the highway to Pikeville. Pike County has let the contract and work is under way from Pikeville to the Floyd County line. In Floyd County the contract from the Johnson County line at East Point to Prestonburg has been let and work almost completed. Only two sections of the highway from Ashland to Pikeville were holding up the Trail. One was the road from Prestonburg to Pike County line and the section from Paintsville to the Floyd County line. Johnson County has its money to make the completion of its portion of the Trail, and last week let the contract for its road.

Now what is wanted badly is a macadamized highway from Louisa and Paintsville to the oil and gas fields of Johnson, Lawrence and Magoffin Counties and with the money being expended in the oil fields of the three counties, the oil people should have a road that materials can be moved over, instead of hauling the pipe through streams and mud for miles.

The only completion reported from the

(Continued on Page 68)

News of Mexican Fields

By George Blardone

TAMPICO, Nov. 16.—Apart from new completions that will mean some 7,000 bbls. in the northern fields, Mexico's record for the past week is rather dull. The completions were as follows: International Petroleum Co.'s No. 27, Lot 4 Cacalilao is one of the best at 1,808 feet, rated at 4,000 bbls.; Mexican Sinclair Petroleum Corp.'s No. 24, Lot 3, Cacalilao is rated at 2,000 bbls. at 1,810 feet; Rich-Mex Oil Co.'s No. 11, Lot 1, Cacalilao (4-B) at 2,150 feet is rated at 150 bbls.; Transcontinental Petroleum Co.'s No. 31, Lot 4, at 2,250 feet is a dry hole. This completes the record on the Panuco-Cacalilao completions for the past week.

In the South Field the Huasteca Petroleum Co. (Mexican Petroleum Co.) No. 13, Juan Casiano, Lot 157, Chinampa, is a completion at a subsea level, 1,832 feet, rated at 500 bbls. At the same time the Mexican Eagle Co.'s No. 7, Palma Sola, is a duster at 2,313 feet.

The most interesting completion in the wildcat division of the Northern fields is Mexican Gulf Oil Co.'s No. 43 El Barco, which is now rated as complete at 2,580 feet (possibly in the Tamasopa), at a production of 360 bbls. If this is correct this is the most interesting completion in this much-discussed acreage which lies between Caracol on the east and the more western production of the Panuco Pool.

In the Topila sector, the Williamson test in Lot 36, Pac. de Agua, is a dry hole at 2,275 feet, although it had a slight showing.

In the Marland Field, Cia. Pet. Franco Espanol No. 12 Limon has been abandoned at 2,925 feet as a duster.

Salt Water in Cacalilao

Salt water in the Cacalilao sector of the Panuco Field during the past week, might be best described as follows: Mexican Sinclair Petroleum Co. in three wells lost some 18,000 bbls. There were some pinch downs in other wells, but these were immaterial. La Corona Pet. Co. in two wells lost 30,700 bbls. These later figures, considering their original potential production, rather than their actual production, are from the wells in question. These losses are in the main fold in Lot 4, and in its offset in Lot 3. Despite the rumors to the contrary, these losses have nothing to do with the eastern Lot 1 on which are located the wells of the smaller independents, which, as producers, have already been reported.

Transcontinental Petroleum Co. (Standard Oil of New Jersey) report no recent salt water showing in their wells in Cacalilao.

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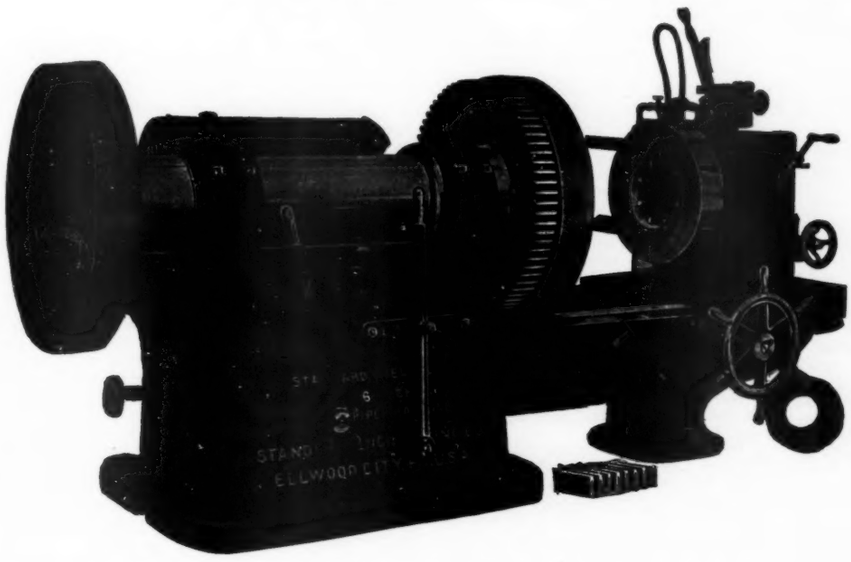

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PIPE THREADING MACHINES

East Central Texas

By Staff Correspondent.

Powell reached a peak of 354,893 bbls. and an average for the week of 325,000 bbls., but production was on the decline at the week end and very little new work was started. Another important lease showing cut oil. Appears to be only one direction in which the field can extend.

CORSICANA, Tex., Nov. 19.—The Powell Field establinshed a new peak production record and a new high record for the week, in seven days, ending Saturday night. The peak of production is given as 354,893 bbls., reached on Tuesday, when every well in the field was opened wide and permitted to produce all its oil. The average for the week was 325,000 bbls. The peak production broke all records in American oil fields, but the average for the week is second to that of Santa Fe Springs, California, made in July, which was 338,000 bbls. The production at the close of the week was back to 320,000 bbls. a day, notwithstanding a large number of completed wells.

There were 21 completions registered in the week in review, some of which were reported in last week's late review and against these only seven new derricks were reported, indicating how operations are falling off in the field.

No one dares to make any ventures in the southwest extension until the fate of the Tidal Buttram Oil Co.'s No. 1 Bressie is fully determined. The results in the tests of the Simms Oil Co. on the Boyd farm, Meador survey, and of Webster & Pickens' test on the Boyd farm, Bragg survey, were discouraging to those who would continue along the straight line of operations in the field.

Most of the new derricks are on that part of the Smith survey which lies east of the Texas & Brazos Valley Railroad, which appears at this time to be the determining factor in the future of the field, every other part of it having been pretty well defined. The number of comparatively small wells in the past week on leases where gushers have been found heretofore, is also an indication of the beginning of the end of certain large productive properties.

Speculation as to what Powell will be producing at the end of the year are now being generally engaged in, but the diversity of opinion is great, ranging all sity of opinion is great, ranging all the way from 200,000 bbls. down to even below 100,000 bbls. a day. There is a lot of good looking territory on the leases included in the Smith survey yet to be developed. The results of operations there should determine the continued importance or the finish of the Powell Field.

Wells on the Tidal Buttram Oil Co.'s Phillips lease on the Harris survey are showing from 4 to 8 per cent b. s. This lease is on the same survey as the Gulf Production Co.'s Barron lease, on which all the wells are showing cut oil. Conditions on these leases and the comparatively small production of recent competions on leases where big wells had been the rule are significant.

The Webster & Pickens test on the Boyd farm, Bragg survey, made four flows each of 200 bbls. of fluid, 40 per cent of which was water and then quit. The well is not taken seriously. The Tidal Buttram Oil Co.'s test on the Bressie farm, Bragg survey, is out of the Austin chalk at 2,922 feet, which is very low and it ought to be a completion in a few days.

Late Completions

Last week's completion, not heretofore reported, were as follows:

Humble Oil & Refining Co.'s No. 7 Crews, Harris survey, sand at 2,920-70 feet, 960 bbls.

Humble Oil & Refining Co.'s No. 4 Kent, Mathews survey, sand at 2,970-87 feet, 720 bbls.

E. L. Smith Oil Co.'s No. 7 Keith, Mathews survey, sand at 2,951-62 feet, 4,000 bbls.

Humble Oil & Refining Co.'s No. 13 Davis, Barry survey, sand at 2,920-72 feet, 300 bbls.

Gulf Production Co.'s No. 10 Crews, sand at 2,915-78 feet, 2,500 bbls.

Humble Oil & Refining Co.'s No. 19 Humphreys, Smith survey, sand at 2,913-73 feet, 1,000 bbls.

Humble Oil & Refining Co.'s No. 17 Humphreys, Smith survey, sand at 2,892-2,969 feet, 2,500 bbls.

Empire Gas & Fuel Co.'s No. 3 Sweatman, abandoned at 2,995 feet without setting pipe, because of the failure of No. 2, a salt water well at 3,000-01 feet.

Humble Oil & Refining Co.'s No. 15 Davis, Barry survey, sand at 2,956-75 feet, 300 bbls.

Humble Oil & Refining Co.'s No. 13-B Ramsey, Smith survey, sand at 2,835-42 feet, 1,215 bbls.

Humble Oil & Refining Co.'s No. 5 Walker Pugh, Smith survey, sand at 2,934-54 feet, 366 bbls.

Humphreys Oil Co.'s No. 57 McKie, Broyles survey, sand at 2,822-74 feet, 300 bbls.

Collins & Wheelock's No. 1 Kent, Harris survey, sand at 2,778-85 feet, 800 bbls.

Collins & Wheelock's No. 2 Kent, Harris survey, sand at 2,987-92 feet, 215 bbls.

The Texas Co. and Magnolia Petroleum Co.'s No. 15 Kent, Smith survey, sand at 2,864-2,910 feet, 392 bbls. the first 10 hours.

Atlantic Oil Producing Co.'s No. 4 Kellum, Harris survey, sand at 2,909-65 feet, 8,000 bbls.

Atlantic Oil Producing Co.'s No. 7 Kellum, Harris survey, sand at 2,880-2,950 feet, 3,500 bbls.

Gulf Production Co.'s No. 9 Crews, Harris survey, sand at 2,935-80 feet, 4,800 bbls.

E. L. Smith Oil Co.'s No. 5 Keith, Mathews survey, sand at 2,930-65 feet, 6,000 bbls.

E. L. Smith Oil Co.'s No. 6 Keith, Mathews survey, sand at 2,922-63 feet, 6,500 bbls.

Humble Oil & Refining Co.'s No. 10 Davis, Barry survey, sand at 2,920-70 feet, 2,400 bbls.

McMahon and others' No. 1 Cerf, Smith survey, sand at 2,862-75 feet, 2,400 bbls.

Humphreys Oil Co.'s No. 55 McKie, Buffington survey, sand at 2,893-2,951 feet, 95 bbls.

Humble Oil & Refining Co.'s No. 10 B. McKie, Buffington survey, sand at 2,874-2,948 feet, 95 bbls.

The Texas Co.'s No. 5 Fleming, Harris survey, sand at 2,923-76 feet, 12,000 bbls.

Humble Oil & Refining Co.'s No. 21 Humphreys, Smith survey, sand at 2,897-2,936 feet, 1,000 bbls.

Humble Oil & Refining Co.'s No. 14 Davis, Barry survey, sand at 2,953-59 feet, 300 bbls.

Texas & Brazos Valley Railroad Co.'s No. 2 Right of Way, Mathews survey, sand at 2,928-58 feet, 4,500 bbls.

Humble Oil & Refining Co.'s No. 3-A Cerf, Smith survey, sand at 2,877-2,968 feet, 93 bbls.

Little New Work

Very little new work was started in the past week. The J. K. Hughes Oil Co. has a derrick up for No. 4 Alexander, Smith survey. The Humble Oil & Refining Co. has built derrick for No. 4-B Cerf, B. Smith survey, and for No. 5-B Cerf B. The E. L. Smith Oil Co. has derrick up for No. 1. N. Cerf, Smith survey. Elliott, Sparkman and others have erected derrick for No. 2 Hill, Smith survey. Barclay & Meadows have a derrick up for No. 1 Wovlens, Smith survey. The Simms Oil Co. has a derrick up for No. 5 Rose, Harris survey. Johnson & Stock have made a location for N. 2 Harvard, Mathews survey. Reeves & Jackson are drilling below 800 feet in No. 1 Wovlens, Mathews survey.

Thirty-one completions and only seven new derricks in the same week indicates how operations in the field are letting up.

West Side Looks Favorable

While hope of getting production southwest of the Skelly Oil Co.'s No. 1 Keith, Mathews survey, was lessened by the failure of the Webster & Pickens test to make a real producer, the Powell Field has another direction in which to stretch its productive area, and that is to the west. The Powell Field runs down a thin line for about 6 miles and then there is a twist westward in the productive formation which increases the width of the oil area in that part of the field to about four-fifths of a mile, as thus far defined. This western part of the southwestern end of the field is getting quite a play. The Humble Oil & Refining Co. has a great lease in the Humphreys farm, Smith survey. McMahon and others in the past week drilled a 2,400-bbl. well on the Cerf farm, while R. E. Brooks finished a 3,000-bbl. well in No. 1 Cerf the week before. The Humble tank farm on the Hill farm is being tested and far to the west Millerman & Dorney will soon be finished on a test on the Clements farm. This part of the field may lengthen the life of Powell, which is pretty well defined in every other direction. The Tidal-Buttram test on the Bressie farm is the last remaining hope in that part of the field.

Loading Rack Burns

The Humble Oil & Refining Co. suffered a very severe financial loss on Thursday when its 75-car loading rack caught fire and 70 per cent of it was destroyed, together with 25 tank cars of oil. The loading rack was located at Mildred on the Texas & Brazos Valley Railroad. The locomotive of the train was destroyed in the fire. The Humble company shipped about 20,000 bbls. of crude a day from this rack. The fire was caused by a spark from the locomotive.

November Banner Month?

If, as it is generally believed here, the Powell Field is to see its biggest production in November and then tumble rapidly into the discard along with other good old has beens, it will certainly go down in a blaze of glory. Beginning with the close of The Oil and Gas Journal's monthly report for October, the first 83 wells completed in the field in the November period were credited with a total initial production of 323,830 bbls., or an average of 3,902 bbls. per well. Of the 83 wells one started at 18,000 bbls., five at 12,000 bbls., one at 10,000 bbls., two at 9,000 bbls., three at 8,000 bbls., seven at 7,000 bbls., three at 6,000 bbls., nine at 5,000 bbls. Thirty-one wells out of 83 started at 5,000 bbls. or more. If there are as many oil wells completed in November as in October and the average of the first 83 wells in November is maintained through the month the initial production will be something

(Continued on Page 93)

Kansas Oil Field News

By C. D. Lockwood

Except for an increase of 11 operamost of which were accounted for by a larger number of wells shut down, the Kansas fields reported little of interest during the week in review. Last week there were 36 locations, 54 rigs, 55 wells drilling and 85 wells shut down, a total of 230 operations. The week before there were 34 locations, 53 rigs, 63 wells drilling and 69 wells shut down, making a total of 219 operations. This shows a gain during the past week of 2 locations, 1 rig and 16 wells shut down, and a loss of 8 wells drilling.

Considerable interest was attached to the J. D. Hill and Waite Phillips wildcat test No. 1 Johnson, NW cor. SE, Section 20-33-3e, in western Cowley County, which made one flow of 100 bbls. when a liner was run with about 2,600 feet of oil standing in the hole. The sand was found at 3,199 feet.

In Butler County, Roy Ramsey was spudding in No. 1 Hay, SW cor. Section 16-23-6. The Sparta Oil Co.'s No. 1 Palmer, NW cor. SE, Section 32-26-6, was shut down at 200 feet. Clark and others' No. 1 Sturgeon, NW cor. Section 26-23-7, was spudded and shut down. Maulter & Ray also shut down their No. 1 Eckel, NE cor. SW, Section 18-27-7. Reynolds and others abandoned the location for No. 1 Leitzxe, NW cor. SE, Section 33-27-5.

In Cowley County, the Buffalo Trust Co.'s No. 3 Keithley, CNL NW NE, Section 36-32-4, was making 50 bbls. of oil and 60 bbls. of water after a 50-quart shot in sand at 1,479-84 feet. Price & Wentz, No. 3 Hostutler, SE cor. NE NW, same section, was making 30 bbls. of oil and 70 bbls. of water after a 20-quart shot in sand at 1,490-1,501 feet.

Milligan & Hayhurst's No. 2 Elrod, NW cor. SE, Section 6-32-5, was drilling at 300 feet. McNab and others' No. 1 Lierman, NW cor. NE, Section 19-32-5, was spudded and shut down.

Roth and others' No. 1 Ferguson, NE cor. NW SE, Section 4-30-8, was dry and abandoned at 2,910 feet.

In Sumner County, Mason & Ralston and others' No. 1 Conway, NW cor. SE, Section 4-32-2, was a rig. The Newton Oil Corp.'s No. 3 Westchenski, SE cor. SW NE, same section, was a rig. Captain Terrill's No. 1 Judd, NW cor. Section 34-33-2e, was a failure at 3,790 feet.

Webster and others' No. 1 Swarts, CNL NE NE, Section 17-29-12, Elk County, was showing 1,000,000 feet of gas from sand at 1,789-91 feet. Southwestern Gas Co.'s No. 1 Renford, SE cor. NE, Section 36-30-11, was a machine. Molson & Phillips' No. 1 Harris, CSL NE SE SW, Section 27-29-9, Elk County, was making 5,500,000 feet of gas from sand at 1,453-75 feet. The same company's No. 2 Harris, C SW SW,

(Continued on Page 89)

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West Kentucky-Tennessee

By Vern T. Whitney

W. S. Raydure gets 100-bbl. producer on Coop farm, Sulphur Creek, and 15-bbl. well in No. 1 Porter Huddleston, Kettle Creek, which extends area 2 miles. C. E. Daugherty & Co.'s No. 2 Miller, Owensboro, and the Panther Oil Co.'s No. 3 Miller, are good for 25 bbls. each. Work in Tennessee.

BOWLING GREEN, Ky., Nov. 19.—The combined runs and shipments for the Western Kentucky Field shows an increase of 5,100.02 bbls. for the month of October, with a total run of 115,507.09 bbls. Warren County runs totaled 61,809.67 bbls., an increase of 3,263.68 bbls. over September. Of this amount, the Paragon Development Co. handled 29,772.02 bbls.; Indiana Refining Co. 24,268.58 bbls.; E. R. Riggs, 5,083.17 bbls.; Swiss Pipe Line Co. approximately 1,500 bbls.; Park City Refining Co. approximately 740 bbls. and the Central Producing & Refining Co. 445.90 bbls. The total runs for the month in Allen County were 37,613.91 bbls., an increase of 461.98 bbls. when compared with September totals. Barren County's runs for the month amounted to 6,316.79 bbls. an increase of 1,724.58 bbls. over September. Hancock and Ohio Counties' runs totaled 4,240.39 bbls., a gain of 737.27 bbls. Simpson County's runs amounted to 2,497.27 bbls., a decrease of 153.39 bbls. Cumberland County showed a total run of 1,802.52 bbls., a loss of 555.48 bbls. compared with September. Hopkins County showed a decrease of 378.12 bbls. during October, with a total run of 1,227.83 bbls.

The producing counties of western Kentucky and Tennessee showed a total of 25 completions for the week, with 15 oil wells, and 10 dry holes. Of these completions, Warren County has three, two of which made wells and one duster. Allen County has seven producers and six dusters. Hancock-Ohio area shows two producers. The Cumberland Monroe County fields are credited with two oil wells and two dry ones. Barren County has one producer. In Clay County, Tennessee, one producer and one dry hole is noted.

The most important completion of the week is the No. 1 Porter Huddleston, of W. S. Raydure, on the head of Kettle Creek, on top of Dooley's Hill in Cumberland County. It was finished at 1,114 feet, 260 feet below the Pencil Cave, and is estimated at 115 bbls. This well extends the producing area of the Kettle Creek district 2 miles and proves that production will be found in paying quantities in the sand below the Pencil Cave, at Kettle Creek.

In Monroe County, Turner & English have a good showing of oil in No. 1 Railey, about 5 miles west of Tompkinsville, at 740 feet, one foot in the pay. This test is carrying water from the stray sand at 320 feet which was not cased off and before drilling into the sand it bailed on the average of four bailers of water every two hours. Since hitting the pay oil filled rapidly in the hole and two-thirds of a bailer of oil was being taken out every 10 minutes on Saturday. A 600-bbl. tank is now being erected and the well will be drilled in. A packer will be set and a string of 4⅞-inch casing run to shut off the water.

Showing in Owen County

In north central Kentucky, a wildcat on the L. P. Alexander farm, being developed by J. A. Boyle of Oil City, Pa., is showing for a well at 400 feet, 50 feet below the black shale. Arrangements are now being made to test out the showing. No. 2 location has been made. The farm is 6 miles southwest of Worthville, in Owen County. One and one-half miles north of the Alexander test, Fred Hillis and associates of Lexington, are drilling at 267 feet.

Owensboro Field

Production in the Pellville section of the Davies-Hancock-Ohio County oil oil fields was increased by about 50 barrels in the past week, when two completions, for an average of 25 bbls. each were registered. C. E. Daugherty & Co. on the Virgil Miller farm, have one of the best wells in the district in their No. 2 venture which was finished in the Barlow sand and it is easily rated as a 25-bbl. pumper, many making the early estimates higher. The well finished at a depth of 748 feet with pay sand from 728-746 feet and a showing that has rivaled any in this section of the field. Shot with 80 quarts of nitro, early in the week, the sand responded readily and the hole filled to a considerable depth with fluid.

Just across the road from the Virgil Miller, the Panther Oil Co., which recently took over the holdings of the Damron Brothers, finished its third venture on the Bob Miller farm, which will probably start off at 35 bbls. flush production. From the early indications this well may settle to its normal production in a few days and it is predicted it will make 25 bbls. without the least trouble after the flush is pumped off. This well showed 22 feet of pay sand . After the casing was reset and the tubing run Saturday afternoon oil was standing the full depth of the hole, 705 feet.

Large Oil Deals

One of the best deals made in oil properties in the Owensboro Field was consummated during the week when C. E. Daugherty, of C. E. Daugherty & Co., purchased from Fred L. Hartman and J. S. Young, of Lawrenceville, Ill., their one-half interest in the Virgil Miller lease. By the terms of the deal, Mr. Daugherty becomes a full owner of the property. Hartman & Young held a half interest with C. E. Daugherty & Co., on a drilling contract. The price paid for the property, which now has two producing wells, one in the shallow and one in the deep sand, was not made public but it is understood to have been very attractive.

Drilling New Wells

In the Hurricane section the Newton Oil Co., on the Bickett farm, is on top of the Jett sand at 480 feet, while the Wood Oil Co., is down 150 feet in its first venture, neart Aetnaville.

C. A. Leeper is moving his rig from the T. R. Helm farm to the Bailey tract west of the Stewart lease and in connection with Charles Roesner, of Indianapolis, will drill a well to test out this property. The Kentucky Oil Co. is rigging up on the Chambers farm.

In the Maceo section, the Chicago Petroleum Syndicate has recovered its tools after a difficult fishing job which has lasted for two weeks, and is preparing to set small casing at 1,000 feet and will proceed with the hole to a depth of about 1,300 feet, near the hamlet of Spottsfound at a lesser depth.

In Henderson County the Pennsylvania-Indiana Oil Co. is making hole at 1,300 feet, near hte hamlet of Spottsville, on the Graham farm.

The McCombs Producing & Refining Co., drilling at Narrows, Ohio County, is about 1,500 feet. This test has passed through the black shale and according to old logs, should encounter a paying formation within the next few hundred feet. J. Reigle and associates are also drilling a deep test in the vicinity of Narrows.

Cumberland County

The largest well of the week in review was completed by W. S. Raydure on the G. W. Coop farm, in the Sulphur Creek district of Cumberland County. It is estimated at 100 bbls. in the stray sand encountered from 135 to 145 feet. No. 1, drilled over a year ago, on the south end of the property was a duster. No. 2 was located on the north end of the lease and was drilled as an offset to No. 1 John Riddle, a 50-bbl. pumper.

In the Kettle Creek district, No. 1 Pete Coe and others' of Bushaw, was abandoned in the shallow pay. No. 1 J. I. Scott, of Lynch, and associates, is dry at 608 feet, about 130 feet below the Pencil Cave.

Drilling Operations

Bear Creek: E. M. Treat & Co. are rigging No. 1 J. P. Smith to offset its big well on the Riddle farm; Paragon Development Co. is making hole at 600 feet on the M. L. Spear property. A 10-inch hole was started and 300 feet of 8-inch was set to shut off water. This well is also being drilled to offset the Riddle well of Treat & Co. The Martsolf Fuel Products Co. is rigging up its No. 2 on the Sam Bruton farm, 1¼ miles from the Treat well. No. 1 on the Bruton found production in the Modoc sand at 601 feet, 92 feet below the Cave sand.

Sulphur Creek: Hook, Roos & Co.'s No. 2 Sam Riddle is making hole at 50 feet; No. 3 A. Huddleston of the Morris Petroleum Co. is drilling at 500 feet, 50 feet below the cave. A good show was encountered immediately below the cave. This farm has been divided between the Morris Petroleum Co. and the Combest Oil Syndicate: Nos. 3, 4 and 5 going to the latter and Nos. 1, 2 and 6 going to the former. The No. 6 will now be referred to as No. 3 A. Huddleston. The Seaboard Oil Co. is making a hole at 300 feet on No. 2 C. E. Groce. It is located 1,000 feet south of No. 1 which was a duster. Douglas St. Clair has moved a rig to the Victoria King farm, about 1 mile south of Bow schoolhouse. This will be a ridge well. W. S. Raydure and the McClintock Oil Co. are cleaning out some old wells on the Hood farm.

At Judio Creek, the Judio Development Co.'s No. 3 J. B. Hume is dry in the sand which is productive in both Nos. 1 and 2. It will be continued on down to the deeper pay below cave.

At Big Renox Creek, the Shady Hill Oil Co. is making hole at 367 feet on the C. Strange farm. The new locations were staked off on this property.

The test being drilled by Douglas St. Clair on the E. Baker farm at Marrowbone Creek in the extreme northwestern part of Cumberland County, is down 100 feet. A lot of attention will be given this operation as it is the first well drilled in this district. If a producer it will open thousands of acres of new territory along the new trunk line of the Paragon Co.

Kettle Creek: The Atlantic Oil Producing Co. is setting tanks on its W. Dowell farm to take care of expected flowing production as it is an offset to the big Kim Crawford well. A showing

(Continued on Page 56)

Pennsylvania-West Virginia

By D. S. Wakenight

PITTSBURGH, Pa., Nov. 19.—The outstanding feature in the East during the past week was a 15-cent reduction in the posted market price for credit balances of the Pennsylvania grade of crude. The reduced price did not come as a surprise as western grades had suffered a cut the previous week. The new price quoted will have very little if any effect on field work for it is now and has been for some months at a very low ebb.

Light wells with one exception are still the rule in the West Virginia fields. In Liberty district, Marshall County, the Carnegie Natural Gas Co. got a gasser in the Gordon sand at a second test on the R. L. Carmen farm. In Clay district, Wetzel County, the Pittsburgh & West Virginia Gas Co.'s second test on the J. J. Ferrell farm is a gasser in the Big Injun sand. In Church district, the same company has a Gordon sand gasser on the Winona Parrish farm. In Center district, the Carnegie Natural Gas Co.'s test on the Rufus Long farm is a gasser in the same formation. In Grant district, Ritchie County, O. C. Satterfield's test on the C. Newbrough farm is estimated to be good for 5 bbls. a day in the Big Injun sand. In Union district, the Hope Natural Gas Co. has a gasser in the same formation at a test on the Amos Perrine farm. In the same district, the Carnegie Natural Gas Co. has a gasser in the third salt sand at No. 4 on the S. S. Tharp farm. In Glenville district, Gilmer County, the Roanoke Oil & Gas Co. has now drilled its test on the A. B. Campbell farm through all sands and dry. In Southwest district, Doddridge County, the Carter Oil Co.'s No. 30 on the W. B. Maxwell farm is a gasser in the Big Injun sand. In Central district, the Imperial Oil & Gas Co.'s second test on the F. P. Dotson farm is good for 10 or 15 bbls. a day in the Big Injun sand. In the same district, the same company has a 3-bbl. pumper in the same formation at a test on lease No. 2 on the W. A. Mason farm.

Dusters in Lewis County

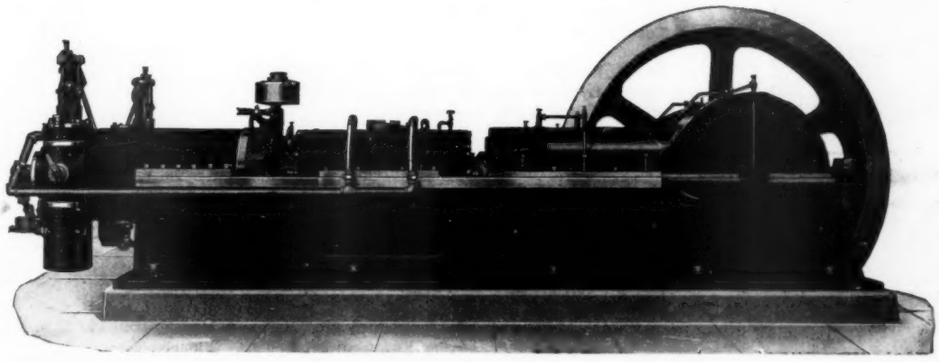
In Courthouse district, Lewis County, A. T. Bailey & Co.'s test on the C. P. Gaston farm is now through all sands and dry. In the same district, J. C. Chidester drilled his test on the Wead Smith farm through the fifth sand. It is dry in this and all upper sands and has been abandoned. In the same district, John Wohence & Co. have a 5-bbl. pumper in the Gordon sand at a test on the J. E. Crowl farm. In Freemans Creek district, the Jones Oil Co.'s test on the J. W. Starcher farm is a gasser in the Big Injun sand. In Simpson district, Harrison County, the Hope Natural Gas Co.'s test on the Susan Wolf farm is a fifth sand gasser. In the same district, the same company's well on the Jones lot is dry and abandoned. In Geary district, Roane County, the United Fuel Gas Co. has a gasser in the Big Injun sand at a test on the W. G. Carper farm.

Pumper in Wood County

On Laurel Creek, 2 miles above Boreman pumpnig station, Park Bowser has drilled his test on the Caldwell Ethel

(Continued on Page 88)

INTERPOSED TYPE MILLER GAS COMPRESSOR



View of Watts-Miller direct gas engine driven compressor for natural gas. Compressor cylinder is INTERPOSED, that is, the compressor cylinder is located in the most advantageous position—i. e., between the power cylinder and the crosshead.

The INTERPOSED arrangement has the compressor cylinder located between the power cylinder and the crosshead. A second crosshead and piston rod are avoided. Only one crosshead and one piston rod are employed. Struts or tie rods are avoided.

Struts or tie rods break from the bending effect to which they are subjected at every stroke by parts being out of alignment, either from initial errors or resulting from wear. Also struts or tie rods occasionally buckle from accidental causes.

Close alignment is easily secured at the outset between the power cylinder, compressor cylinder and crosshead. This accurate alignment is maintained because with the interposed arrangement there is very slight tendency for these parts to wear out of alignment.

Complete ACCESSIBILITY through employment of flat bed with cylinders bolted on top of bed. Either the power cylinder or the compressor cylinder may be removed without disturbing the other. Power piston or compressor piston removable without moving either cylinder.

Only one crosshead and crosshead guides, only one piston rod, no struts or tie rods—therefore minimum number of parts, minimum number of bearings, lowest repair cost, lowest friction, smallest consumption of lubricating oil, longest life and largest volume gas pumped for given horse power capacity.

The Miller Improved Gas Engine Company

Factory at Springfield, Ohio

Branch Sales Office and Warehouse for Service and Repairs: 323 North Cheyenne Ave., Tulsa

MEN KNOWN IN OILDOM

Temple B. Hoffer

Temple Boynton Hoffer, of Fort Worth, Tex., vice president in charge of operations of the Producers & Refiners Corporation, was born in Austin, Tex., April 16, 1885. He was educated in the public and high schools there, and later attended the A. & M. College of Texas.

In 1906, he entered the service of The Texas Company in the engineering department, and in 1916 was appointed assistant general superintendent of the Producers Oil Company at Wichita Falls.

A year later he resigned his position with The Texas Company to become general manager of the San Antonio refinery of the Humble Oil & Refining Company, and, in 1918, he took charge of that Company's North and West Texas division, with headquarters at Fort Worth.

In December, 1919, Mr. Hoffer became associated with F. S. Smithers & Company, a New York banking house, taking charge as president of the Fensland Oil Company in which the bank was interested. When the Fensland Company was taken over by the Producers & Refiners Corporation, Mr. Hoffer was elected vice president in charge of operations.

PERSONAL PARAGRAPHS

Thomas B. Slick, oil producer, was in Tulsa several days last week.

* * *

R. M. McFarlin, of Tulsa, was a visitor in Holdenville, Okla., last week.

* * *

William H. Foster, Tulsa geologist, spent several days last week in Corsicana, Tex.

* * *

George W. Giffert, of the Phillips Petroleum Company, has returned to Tulsa from a trip North.

* * *

C. J. Peyton, of Tulsa, traffic manager for the Sinclair Crude Oil Purchasing Company, is spending a few days in the Wyoming fields.

* * *

A. G. Francis, of the Manhattan Rubber Company, St. Louis, Mo., is visiting the Mid-Continent oil fields in the interest of his company.

* * *

G. L. Merin, western representative of the Central Steel & Wire Company, of Chicago, is visiting Tulsa and Oklahoma City, in the interests of his company.

F. H. Wickett, president of the Dixie Oil Company, has returned to Chicago after a short visit in Tulsa.

* * *

M. M. Cuniff, of Boston, was in Tulsa last week on business for the New England Oil & Pipe Line Company.

* * *

L. V. Crater, of Tulsa, secretary-treasurer of the Hiram C. Wilson Syndicate, spent last week in Guthrie on business.

* * *

E. H. Moore, president of the Independent Oil & Gas Company, is spending a month in California looking over the oil fields.

* * *

J. J. Allinson, of St. Louis, Mo., head of the marketing division of the Pierce Oil Corporation, was a Tulsa visitor last week.

* * *

David Kennedy, of Okmulgee, Okla., formerly with the Lyons Petroleum Company, has returned from an extended trip to Europe.

* * *

J. D. Clark, of the Standard Oil Company of Indiana, Chicago, was inspecting properties of the Midwest Refining Company last week.

* * *

E. W. Marland, head of the Marland Companies, has recovered from several weeks' illness, and is able to leave his home in Ponca City, Okla.

* * *

L. R. McCollom, European manager of the National Supply Company, has returned to London from a prolonged tour of the European oil fields.

* * *

William Groundwater has been appointed manager of transportation of the Union Oil Company of California, succeeding Max H. Dyer, resigned.

* * *

A. R. Marshall, of the Petroleum Exploration Company, has returned to Lexington, Ky., from Wisconsin, where he spent several days shooting grouse.

* * *

W. B. S. Winans, assistant general auditor of the Cities Service Company, has returned to New York after a six weeks' trip through the Mid-Continent fields.

* * *

J. M. Crawford, president of the Parkersburg Rig & Reel Company, of Parkersburg, W. Va., who was visiting in Tulsa, left for Texas with his brother, J. K. Crawford.

* * *

Albert H. Fay, chief of the Division of Natural Resources, United States Bureau of Internal Revenue, has resigned and will engage in private practice in Washington.

* * *

Sir Phillip Dawson, M. P., has joined the Board of English Oilfields, Ltd., to fill the vacancy created by the resignation through ill health of Mr. Guy-Pell, former chairman.

* * *

J. J. Bissett, district manager of the Continental Supply Company, has returned to his office in Fort Worth, Tex., after an inspection trip through the southern Oklahoma fields.

* * *

J. V. McGinity, Mid-Continent representative of the Wilson Oil Tools Corporation, has returned to Tulsa after a two weeks' trip through the Arkansas, Louisiana and Texas fields.

* * *

Albert Krippendorf, president of the Cincinnati Oil & Gas Company, is a Tulsa visitor pending the completion of the company's wildcat test near Cordell, Washita County, Oklahoma.

* * *

John R. Manion, president of the Sinclair Pipe Line Company, and J. F. Lake, manager, are making an inspection trip from Teapot to Kansas over the new pipe line of the Sinclair.

* * *

Nathan W. Hale, formerly president of the Hale-McLeod Oil Company, has returned to California after several years' absence, and has opened offices with his son, Lowell, in Los Angeles.

* * *

H. C. Starkey, of the Skelly Oil Company, is visiting the company's properties in Kansas. Later he will also inspect all of the company's holdings in Oklahoma, Arkansas and Texas.

* * *

R. R. Rakestraw, vice president of the Western Refining Company, is on a trip to Europe to conclude contracts for the output of the company's new refinery which is being erected at Wilmington, Calif.

* * *

John J. McKenna, formerly of the auditing department of H. M. Byllesby & Company, Louisville, Ky., has been elected treasurer and auditor of the Louisville Gas & Electric Company, succeeding F. F. Martin.

* * *

W. H. Sharp, vice president and general manager of the Sinclair interests in Mexico and Gulf Coast States, is a Tampico visitor, looking over his company's holdings. The Sinclair interests there rank third in production in the Panuco Pool.

* * *

F. E. Bimmel and F. B. Sands, gasoline engineers of the Carter Oil Company, with headquarters in the New York City office, have been in Casper and Salt Creek, Wyo., looking over the new plant the Carter is building in Salt Lake Field to take care of its gas production.

* * *

J. J. Kennedy, general superintendent of the Eureka Pipe Line Company, paid a business trip to Parkersburg, W. Va., last week. W. J. Alexander, retired vice president and general superintendent of the same company, residing in Parkersburg, and Mrs. Alexander, have left for their winter home in Florida.

* * *

J. E. Shaw, formerly superintendent of the East Coast Oil Company, has accepted the position of manager for the Globe Petroleum Company, a Reilly (Philadelphia) interest, which has a deep well at Quebrache, Mex., and is interested in other leases.

* * *

H. C. Harris, head of the petroleum division of the United States Department of Commerce, visited C. C. Osborn, head of the economics department of the Marland Companies, in Ponca City, last week, and acquainted himself with general conditions in the Oklahoma fields.

* * *

W. P. Bateman, comptroller of the National Supply Company, with headquarters at Toledo, Ohio, was a business visitor in Casper, Wyo., last week, looking over the local situation. Mr. Bateman was accompanied by C. H. Harsch, cashier of the Independence, Kans., office of the National.

* * *

J. H. Thornton, editor of the Trico News, of Sistersville, W. Va., house organ of the Wiser Oil Company, Petroleum Exploration Company and the Western Petroleum Exploration Company, is a busy man these days assorting the copy for the monthly issues from its big staff of field men of the three companies.

* * *

W. C. Woolf, president, and C. D. Keen, vice president of the Keen & Woolf Oil Company, with headquarters at Shreveport, La., paid the Houston, Tex., office of the concern a visit last week. They inspected the refining plant and other properties on the Houston Ship Channel, leaving for Beaumont before returning to the Louisiana city.

* * *

John W. Snedden has resigned as auditor of the Mammoth Oil Company, Casper, Wyo., and will go to Oil City, Pa., where he will be with the National Transit. Mr. Snedden is well and favorably known in Casper and his many friends regret that business is taking him from that region. Mrs. Snedden is a sister to Tom Judge, formerly of Oil City, Pa., and now comptroller of the Standard of New York, with offices in New York City.

* * *

H. B. Bird of Little Rock, Ark., has been appointed chief chemist for the oil and gas inspection department of Arkansas, Perry F. Chappell, chief of the department, announces. Mr. Bird, who succeeds the late Dean Adams, served in the chemical warfare branch of the American Army during the war, being stationed first at Muscle Shoals and later at the Government's picric acid plant at Little Rock.

Youngstown TANKS

Industry

ONLY the highest type of craftsmen are employed in the building of "Youngstown Tanks." We have no room for laggards or unskilled mechanics. We exact mechanical and engineering skill. We pay wages commensurate with this skill.

Each tank leaving our plant is triple inspected and tested. Before it is loaded on the freight cars we are first sure that it is right and that it deserves to bear the name of this company. Our workmen are happy in their knowledge that they are building a high class product.

Write for Bulletin

If you are interested in steel storage you will appreciate a copy of our latest Bulletin 500. Sent free to executives.

THE YOUNGSTOWN BOILER & TANK CO.

J. P. Keene

President.

No. 7 of a Series of Advertisements

The YOUNGSTOWN BOILER & TANK Company
Youngstown Ohio ·· U.S.A.

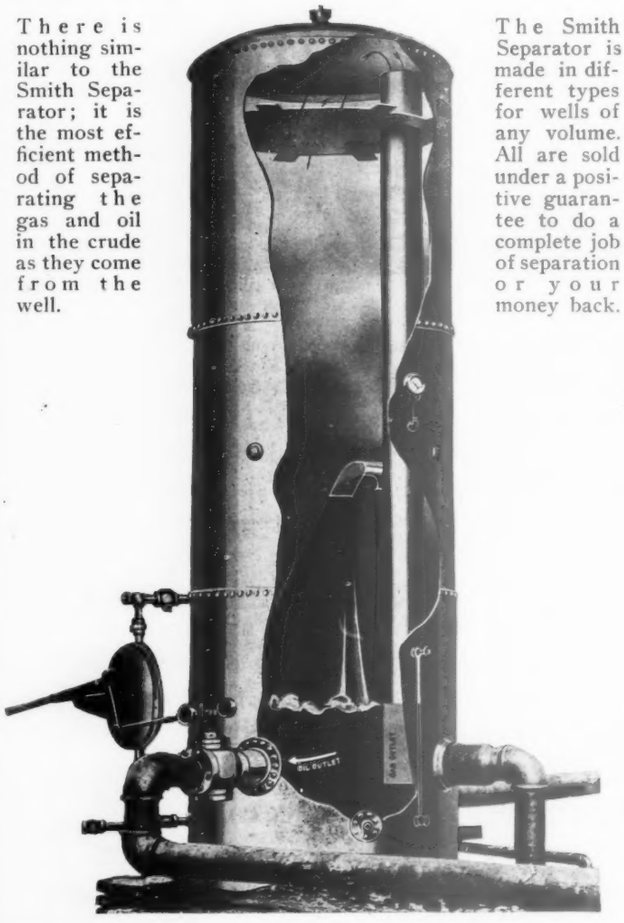
SMITH
OIL AND GAS
SEPARATOR

Designed by an Oil Man

The Smith Separator was designed by T. K. Smith, President of the Chestnut & Smith Corporation, manufacturer of casinghead gasoline, for his own use. He had no thought of marketing it. But its remarkable success in his own operations became known and soon there was such a growing demand for this type of separator that the sale of it on a large commercial scale resulted.

The flow of gas is so thoroughly removed by the Smith Separator that the oil becomes safer to handle and store. The gas as it is conducted away can do no damage even if it becomes ignited.

There is nothing similar to the Smith Separator; it is the most efficient method of separating the gas and oil in the crude as they come from the well.



The Smith Separator is made in different types for wells of any volume. All are sold under a positive guarantee to do a complete job of separation or your money back.

Smith Separator Company

Chestnut & Smith Corp. Bldg.
Tulsa, Oklahoma.

W. KENTUCKY-TENN.

(Continued from Page 52)

was encountered just below the gas sand found at 240 feet. The South Kentucky Oil Co. is drilling at 400 feet on its L. S. Blythe. A showing was picked up at 370 feet. W. S. Raydure is down about 756 feet on the Sam Smith farm. Bonell, Sloan & Zook are drilling No. 1 on the L. C. Blythe to the pay below the cave. No. 2 J. R. Poindexter of the Young Oil Co. is drilling at 236 feet. No. 1 is a 10-bbl. pumper.

Warren County Development

The 10-cent cut in the posted price of crude has left but one thing to do in the Warren County Field and that is to stop development work. Oil cannot be produced profitably here at less than $2 per barrel in the deep sand, and as the shallow wells do not hold up their flush for any length of time, little money can be made at present quotations.

In the Sandidge-Biddle-Francis district, Bannon & Stewart got a 7-bbl. natural pumper in No. 2 on the A. Shields farm. In the Davenport Pool, Clark and associates' No. 1 Hobson is making 3 bbls. on power at 959 feet. Shale was found from 805 to 885 feet. In the Rockfield district, No. 9 on the Joe Kelley place, is a duster at 490 feet.

Sandidge-Biddle-Francis District: Bannon & Stewart are spudding No. 3 Anna Shields at 50 feet. G. W. Pyle's No. 1 Watkins is dry in the shallow sand at 619 feet. Drilling will be continued to deeper pay. Foster and associates' No. 3 Dr. C. E. Francis is nearing the sand and should be completed the first of the week. F. W. Evans is making hole at 215 feet in No. 1 Arch McGinnis. Reed & Co. are spudding at 75 feet on the Montague. These two latter wells are being watched closely, as if producers, they will extend this district to the northeast. On the Elkins farm, near Riverside, Cunningham and associates of Chicago are down about 365 feet. This test is one of the most important drilled in the county during the year as it is far in advance of production.

Waller-Runner and Northeast Area: The Ohio Fuel Oil Co. is rigging up for No. 14 on the W. A. Gott 100 acres. On the adjoining 75 acres of the same farm the Plantation Consolidated Development Co. is down 356 and 230 feet, respectively in its Nos. 9 and 10. E. M. Treat & Co. is spudding No. 14 Sebe Smith. J. J. Fort is spudding No. 2 Wick White. The Martsolf Fuel Oil Co. has resumed drilling on its No. 2 M. Reeves. The Wood River Oil Corp. is shut down at 80 feet on the Rufus Oliver farm.

Rockfield District: Wilde & Co.'s No. 1 G. Smith is showing for a good well at 1,168 feet. It is now waiting to be treated to a dose of nitro. The Ruby Consolidated Oil Co. is moving a rig to No. 4 location on the Price-Hall farm. Loman & Rehm are making hole at 978 feet in No. 4 Gillespie. R. H. Lavelle's No. 3 W. R. Hinton is down 98 feet. Cremer & Co.'s No. 3 Hamblin is shut down at 354 feet. In Eastern Warren, Kopler & Co.'s No. 1 Hugh Hill is shut down at 50 feet.

Allen County: Gainesville district, T. A. Sheridan's No. 3 F. Gibson, dry at 350 feet; same parties No. 4 P. Gibson, 20 bbls. at 310 feet; F. A. Brendall's No. 13 T. Calvert, 10 bbls. at 300 feet; White Plains Oil & Gas Co.'s (Snowden Bros.) No. 18 Buchanon, 7 bbls. at 460 feet; English & Co.'s No. 1 T. R. Wilson, 2 bbls. at 352 feet; Turner & English's Nos. 17, 18, 19 and 20, L. Motley farm, abandoned, 3 bbls., dry and 2 bbls. respectively, at an average depth at 430 feet. West of the town of Petroleum, the Sandusky Oil Co.'s Nos. 2 and 3 Graves, 10 bbls. and dry at 290 and 287 feet, respectively. In the Keen Pool, the Allen County Oil Co.'s Nos. 14 and 15 Mac Fishburn, were both dry at around 310 feet.

In Barren County, Norris, Warder & Sampson's No. 2 Widow Ritchie, west of Glasgow, is pumping 7 bbls. at 569 feet.

Tennessee

At Tinsley's Bottom, 8 miles south of Celina, in Clay County, Tennessee, Da Foe and others completed a 4-bbl. pumper in No. 2 Williams at 486 feet, 166 feet below the Pencil Cave. No. 3 is spudding 1,500 feet northwest of No. 2. No. 1 drilled several years ago, was recently cleaned out and is a small pumper.

The Tennessee National Oil & Gas Co. got a dry hole in its No. 1 on the Widow Hargrove property, one-half mile south of the Willow Grove well at 515 feet.

Report on Clay County Development work is as follows: Neeley's Creek Oil Co. is drilling at 300 feet on the Daly farm. Biggerstaff & Durham's No. 3 L. Bilbrey is shut down at 300 feet. Union Oil Trust Co. is spudding No. 2 Kyle, near Celina. Powell Oil Co. is rigging No. 3 Arch Short. Alexander & Co. are drilling at 700 feet in the sand below the Pencil Cave, in No. 3 on the Mareum farm at Willow Grove. No. 1 drilled in during August is pumping at the rate of four barrels per hour. There are three 250's and one 1,000-bbl. tanks on the farm. No. 2, 500 feet west of No. 1, was dry. No. 3 is located 700 feet north of No. 1. On the south 48 acres of the same farm, C. R. Dixon has let a contract for the immediate drilling of a well. Hunt & McQuarry are spudding No. 1 A. A. Stafford, near the town of Lillydale.

Quite a bit of wildcatting is going on in all sections of Tennessee and it is the general opinion that several pools will be uncovered. In Lawrence County, an important test is nearing completion, No. 3 Stribling, 2 miles north of Lawrenceburg. No. 1 is a fair well at 2,050 feet, which was kept secret until the owners acquired more acreage in the vicinity. No. 2 was dry at 2,645 feet. No. 3 is waiting casing which will be set at 2,050 feet.

Refinery for Gallatin

The Gillispie Oil Corp. of Sumner County, Tennessee, has purchased four acres of land on West Main Street at Gallatin, Tenn., upon which the company will erect a refinery. It will be built under the supervision of C. H. Upper, formerly with the Victory Refining Co. of Nashville.

MINING OIL AT BAKU

The system of mining oil by means of shafts and galleries, operated with some success in the Pechelbronn Field of Alsace, has been imitated, with certain modifications, in the Baku district of Russia. A report of a partial breakdown at the central power station at Shubany draws attention to the fact that petroleum is being won in this way there on a small scale. During the breakdown sufficient current to drive the electric fans was not available, and an existing shaft was deepened to provide a through airway for the drift or gallery. The workings are situated in the western part of the field, about a score of men being employed.

DRILLER IN INDIA LOSES BONUS

WICHITA, Kans., Nov. 17.—Because he is in India, Ross Phillips, an oil well driller, of Wichita, Kans., may not receive his soldier bonus. A request for application blanks was received from Phillips Friday. His letter had been on the way since September 30, and in view of the fact that his application must be on file at Topeka not later than January 1, together with the fact that more than two months are required for a round trip of the mails between here and India, Phillips probably will be counted out. His address is Yenangyoung, Upper Burmah.

DEEPWATER CO. CHARTERED

HOUSTON, Tex., Nov. 19.—No changes in management or policy will follow the incorporation of the Deepwater Oil Refineries. The charter was granted last week at Austin, capital being given as $1,000,000. The Deepwater concern is four years old and has a plant of 3,000 bbls. capacity on the Houston Ship Channel. Incorporators are R. A. Fouts, E. A. Peden, John T. Scott, F. M. Law and E. L. Neville.

KELLY & JONES EXTRA HEAVY HYDRAULIC STRAIGHTWAY VALVES

THE result of over 40 years' manufacturing experience. Designed and constructed to stand up under the most exacting conditions. Made of high grade materials and carefully inspected—tested and proved true before leaving the factory, these valves have been giving dependable service in Oil Fields and Refineries for a number of years.

Our latest catalogue describes this valve together with our complete line of Fittings for Oil Field Service—write for it.

THE KELLY & JONES CO.

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NATURAL GAS DEVELOPMENTS

Spring Hill-Sarepta Gas Field Estimated Good for 15 Years

By George Belchic and C. A. Breitung
Shreveport, La.

The present defined area of the Spring Hill-Sarepta gas field, in Webster and Bossier Parishes, Louisiana, is approximately 50 square miles and the thickness of the producing gas sand averages about 15 feet. Assuming the porosity as .20, which is lower than that used for calculations in the Monroe gas field, and an average initial rock pressure of 1,200 pounds, calculation of the gas content for this area may be made as follows:

$50 \times 5,280 \times 5,280 \times 15 \times .2 = 4,181,760,000$ feet of gas in reservoir at rock pressure of 1,200 pounds.

$$\frac{4,181,760,000 \times (1,200+14.7)}{(.5+14.7)} = 334,540,800,000$$

feet of gas in the reservoir at a pressure of 8 ounces above atmosphere. If 80 per cent of this gas is considered recoverable, this field will yield 267,600,000,000 feet at 8-ounce pressure.

Of the 11 gas wells successfully completed in the field, only five wells were drawn on for consumption in 1922. These five wells are as follows: (1) Munn No. 1, initial rock pressure 1,215 pounds and initial open-flow capacity of approximately 60,000,000 feet; (2) Wise No. 1, initial rock pressure 1,150 pounds and initial open-flow capacity of approximately 35,000,000 feet; (3) Jordan & Young No. 1, initial rock pressure of 1,205 pounds and initial open-flow capacity of approximately 42,000,000 feet; (4) Pine Woods No. 1, initial rock pressure of 1,200 pounds and initial open-flow capacity of approximately 35,000,000 feet; (5) Martin No. 1, initial rock pressure 1,040 pounds and initial open-flow capacity of approximately 40,000,000 feet. These wells show a combined initial open-flow capacity of 212,000,000 feet and a rock pressure varying from 1,040 to 1,215 pounds.

The total send-outs of the wells named up to December 31, 1922, are as follows (figured at 8-ounce pressure): (1) Munn No. 1, 12 months, 1922, 3,350,000,000 feet; (2) Wise No. 1 4½ months, 1922, 800,000,000 feet; (3) Jordan & Young No. 1, 8 months, 1922, 880,000,000 feet; (4) Pine Woods No. 1, 2 months, 1922, 250,000,000 feet; (5) Martin No. 1, 6 months, 1922, 777,000,000 feet. The total send-outs for gas consumption from the five wells amounted to 6,057,000,000 feet as of December 31, 1922, which represents an average withdrawal of 17,000,000 feet per day. The first year withdrawals therefore represent less than 2½ per cent of the total available gas yield. The total send-out of gas at present from these same five wells averages around 20,000,000 feet daily.

Figuring the available supply of gas in the Spring Hill-Sarepta Field at 267,600,000,000 feet, and with a daily consumption of 20,000,000 feet for the entire field, the life of the field will be approximately 37 years. If it is assumed that the maximum withdrawal from the field will reach within three years 60,000,000 feet per day, and remain constant at this figure, the life of the field will be approximately 15 years.

No chemical analysis of the gas in this field is available. Specific gravity tests made on two of the wells show .53 in both instances, which is lower than the specific gravity of the gases in the Monroe Field. These same samples showed a gasoline content of 45 to 47 gallons to the million feet.

The gas is distributed to the Haynesville oil field, the town of Haynesville, the Homer oil field, and the town of Homer. No attempt has been made to use the gas for the manufacture of carbon black.

The appended table shows the location and depth of the five wells:

Name of Well	Locat'n	Elevat'n	Top of Sand	Total Depth
Munn No. 1....	1-22-10	236	2,658	2,662
Wise No. 1....30-23-9		297	2,717	2,722
Jordan and Young No. 1.33-23-10		203	2,641	2,658
Pine Woods No. 1 35-23-10		219	2,650	2,662
Martin No. 1..12-22-10		219	2,656	2,673

MUCH GAS ACTIVITY IN ELK COUNTY, KANS.

WICHITA, Kans., Nov. 19.—There is probably more activity in the oil and gas development line in Elk County than in any other county in the State. The development of natural gas in the county and the active demand for this fuel at a good price makes drilling gas wells a profitable occupation to many who have quit drilling for oil until the price gets better.

There are a half dozen or more gas fields, with the territory well defined. As a rule, gas is selling at 10 cents a thousand feet and several land owners are receiving monthly gas checks of $500 and a few probably more than that for their one-eighth royalty.

A few years ago the big gas field of Kansas was the Oak Valley-Elk City Field, where wells were brought in as high as 80,000,000 feet, but the wells were pumped so hard salt water drowned most of the gas. The operators are more careful now and the salt water danger has been eliminated. Several of the large Oak Valley wells are still producing. Around Longton several wells brought in at around 40,000,000 feet a day are still holding up around that figure. There is a gas development northwest of Grenola, where three or four companies have wells ranging from 3,000,000 feet to 12 million feet. There are a dozen or more wells west of Moline, ranging from 500,000 to several million feet. The biggest fields are west of Howard. It is estimated that the total capacity of the wells in this district is more than 200,000,000 feet a day.

A check-up of locations and drilling wells in Elk County shows 25 tests under way. Practically all are being drilled for gas.

It is estimated, with the wells now completed, the open flow of the county's wells is close to half a billion feet daily, produced from 1,300 to 2,000 feet.

Refusal of pipe line companies to give connection to gas wells, said to have happened in the case of one gas buyer, because of the high unit value of the gas, gives the operators the right to build carbon black factories. A move has been made to build either a carbon black plant or erect a plate glass factory at Moline, using the gas there, getting a better price for it. In northeastern Kansas the spread amounts to 10 times the price paid the producer. And as close as Wichita to the Elk County production it is seven times.

WICHITA FALLS EXTENSION

The Municipal Gas Co. is expending $30,000 in the extension of mains at Wichita Falls, Tex., it is announced by H. T. McLaughlin, district manager. When this work and some other improvements are completed the system, it is said, will be large enough to serve a population of 100,000. The company now has over 6,800 consumers. Among installations planned is a loop system that will give a greater pressure and evenly distribute the gas during periods of heavy consumption.

Carbon Black Is Again to Front in Courts of Wyoming

CASPER, Wyo., Nov. 19.—The announcement of the filing of a suit in the State Court at Cheyenne to contest the constitutionality of the carbon black law of 1919 again brings to the fore this much mooted question and the past action taken by the Legislature and in the United States Federal and Supreme Courts to settle it once and for all. Briefly, the history of this controversy is as follows:

The Wyoming Legislature in its session of 1919, by a decided majority in both houses, passed the so-called carbon black law, providing for the regulation of the use of natural gas in the manufacture of carbon black, which enactment was approved by the then Governor, Robert D. Carey, and became a law. This law reads as follows:

"The use, consumption, or burning of natural gas taken or drawn from any natural gas well or wells, or borings from which natural gas is produced for the products where such natural gas is burned, consumed or otherwise wasted without the heat therein contained being fully and actually applied and utilized for other manufacturing purposes or domestic purposes is hereby declared to be a wasteful and extravagant use of natural gas and shall be unlawful when such gas well or source of supply is located within 10 miles of any incorporated town or industrial plant."

This law, it is charged in the lengthy petition filed in the suit at Cheyenne, is in violation of Section 6 of Article 1 of the Wyoming Constitution that:

"No person shall be deprived of life, liberty, or property, without due process of law;"

And, furthermore, is in violation of Section 33, Article 1 of the Constitution, that,

"Private property shall not be taken or damaged for public or private use without just compensation."

This litigation is of general interest for the reason that the same statute and the same constitutional provisions were passed upon by the United States Supreme Court in the case of William L. Walls, Attorney General of the State of Wyoming, et al., vs. Midland Carbon Co. and Occidental Oil & Gas Co., under date of December 13, 1920, wherein that court held that:

Not Deprived of Property

"Neither the manufacturer of carbon black from natural gas nor the owner of the land on which are the gas wells and a pipe line, and of mineral leases covering proved gas territory, is deprived of his property without due process of law, or denied the equal protection of the laws, nor are the obligations of pre-existing contracts unconstitutionally impaired, by a State statute which prohibits the use of natural gas for products where such gas is burned or consumed without fully and actually applying and utilizing the heat therein contained for other manufacturing or domestic uses (but only when the gas well or source of supply is located within 10 miles of an incorporated town or industrial plant), and forbids the owner or lessee of natural gas wells within the 10-mile limit to sell or dispose of the gas for the purpose of manufacturing or producing carbon or other resultant products from the burning or consumption of such gas unless the heat therein contained is fully and actually applied and utilized for other manufacturing or domestic purposes, since there being a great disproportion between the volume of gas and the product, the State could exert its police power in this way to conserve the gas supply for less wasteful uses. The fact that carbon black is more valuable than the gas from which it is extracted does not preclude a State from prohibiting, in the exercise of its police power, the use of natural gas for products where such gas is burned and consumed without fully and actually applying and utilizing the heat therein contained for other manufacturing or domestic purposes."

With the fuller development of the constantly increasing number of gas fields of Wyoming and the construction of numerous pipe lines into cities and towns in the State, supplying to the citizens thereof cheap fuel and heat from gas, the opposition to the use of one of Wyoming's greatest natural products for the manufacture of carbon black without restriction and regulation, which the legislature attempted to afford in the law of 1919, is becoming more and more pronounced throughout the State. The outcome of this latest step in this long drawn out controversy, which was thought to have been settled by the United States Supreme Court decision mentioned, will no doubt be watched with much interest by the people of the State, who are interested in the conservation of its natural resources.

TOWNS NOT OPPOSING RAISE IN GAS RATES

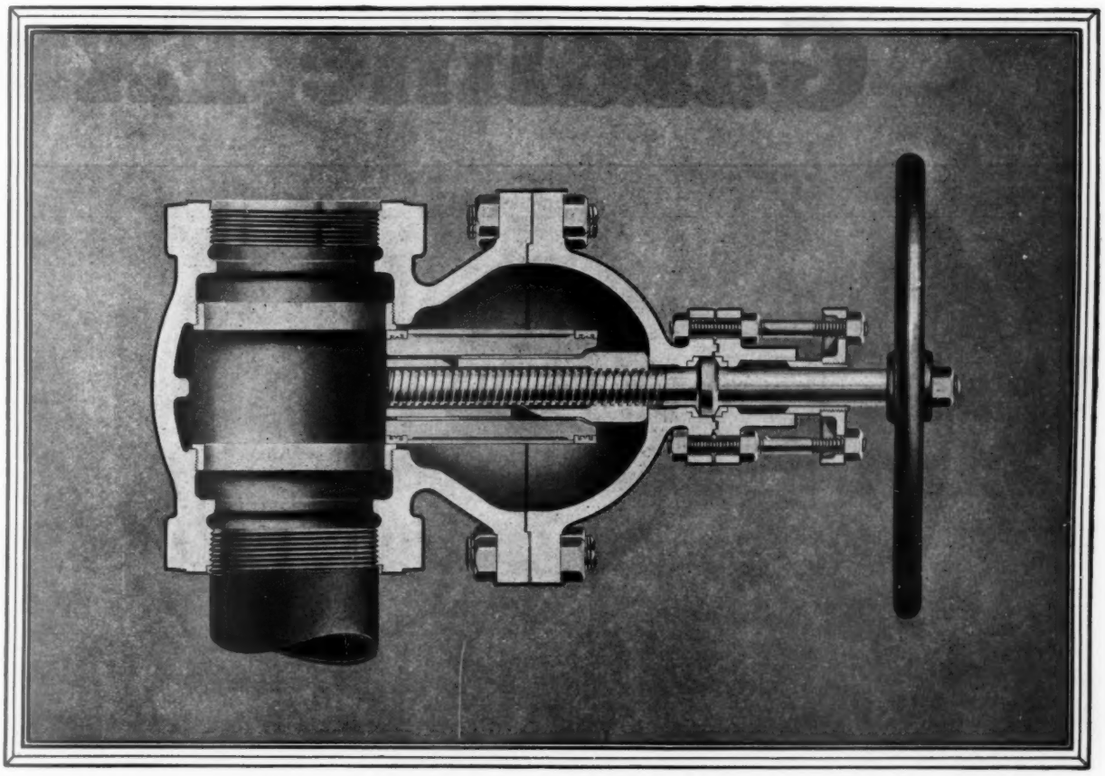
PITTSBURGH, Pa., Nov. 19.—Many towns and cities instead of opposing rate increases by the natural gas companies now are supporting these advances as a measure of self-protection against complete loss of service, according to H. J. Hoover, of Cincinnati, president of the Ohio Gas and Oil Men's Association. Mr. Hoover states that in a number of progressive Pennsylvania, Ohio and West Virginia communities the mayors and city councils, chambers of commerce, boards of trade and other interested groups have recognized that the dwindling supply of natural gas is the public's problem now, and a serious one; that it is no longer a matter of harassing the gas service companies, but of getting behind them and aiding them in every manner in their efforts to procure enough gas for the essential needs of the domestic user.

"That municipalities are getting ready to help instead of hinder in the effort to save the supplies of natural gas," said Mr. Hoover, "is shown by the cooperation of many towns in recent rate increases, made necessary in order for the gas companies to obtain contracts for gas in the fields.

"If communities are to continue for many years to enjoy the best gas that ever has been given to mankind for the essential household purposes, then natural gas rates must be put squarely on a manufactured gas rate basis, and that without delay."

NEW MEXICAN WELL REPORTED

OKLAHOMA CITY, Okla., Nov. 19.—The Illinois Producers' Co. is reported to have an oil sand east of the Pecos River, near Roswell, N. M., good for 25 bbls. daily, at about 1,900 feet. The company is drilling two more wells. The Hawkins well near Dayton, N. M., is said to also to be a paying producer and the Eureka Oil Co. of New Mexico has started drilling other wells. The well makes both gas and oil and J. C. O'Guinn and associates of Wichita Falls contemplate installing a gasoline extraction plant and probably a refinery.



BODY, BONNET, DISCS, STUFFING BOX AND GLANDS ARE CRANE ELECTRIC-CAST STEEL. STEM IS FORGED STEEL. THE DISC FACES ARE MONEL METAL. THE RENEWABLE SEATS ARE STEEL

CRANE DRILLING-THROUGH VALVE

Supplied in all oil well sizes. The passage is entirely clear when the valve is opened for drilling. The non-corrosive disc spreading mechanism is accurately machined to reduce friction to a minimum. A brass gland-bushing is used. Crane rugged construction marks every detail.

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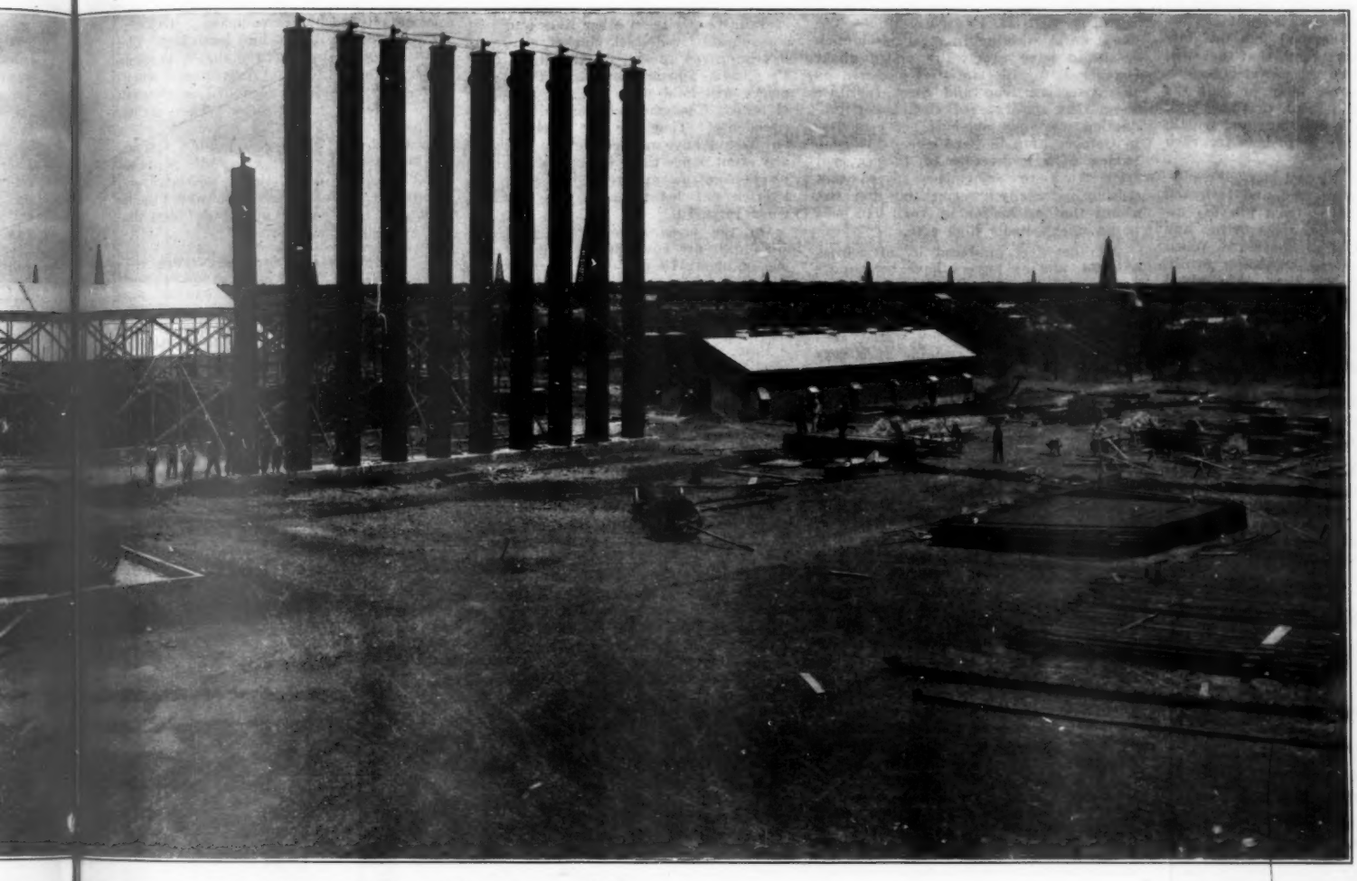

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mplete ready to operate

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SUPPLY COMPANIES

NSCO

EQUIPMENT AND SUPPLIES

ADVANTAGES CLAIMED FOR FISH TAIL BITS

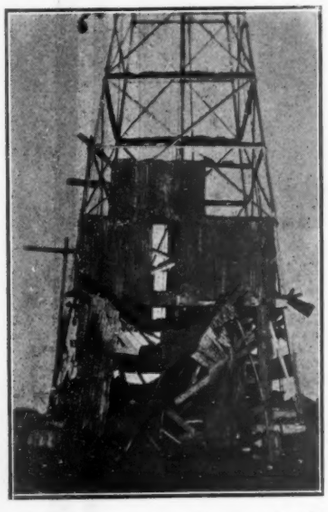
The Federal Supply Co. of Fort Worth, Tex., manufacturers of rotary drilling and fishing tools, specializing on fish tail bits, claim four advantages for its Federal Red Diamond fish tail bits in a recent circular: First, that they will never break off at the shank; second, that they will never strip or gall the threads on the pin; third, that they will make more hole per dressing; and fourth, that they will make more hole for each dollar invested.

"Most ordinary fish tail bits," the company says, "when dressed and tempered become hard all over from pin to cutting edge. This makes them brittle and more apt to break off at the shank. When dressed and tempered according to directions, our bits are hard only where the hardness is needed—on the cutting edge and up about 3 inches on the blade."

POSTPONE ASSIGNED CAR ORDER

WASHINGTON, Nov. 19.—The Interstate Commerce Commission postponed until January 1 next the effective date of its assigned coal car order. In a decision announced last spring, but not yet put into effect, pending rehearing of the controversy, the commission declared that railroads could no longer give special transportation service to mines producing coal for railroad fuel or to owners of private coal cars.

DERRICK STANDS STRAIN



Blowouts are not uncommon in the oil fields, but very often there is an interesting combination of conditions which makes a very particular blowout different from another.

The illustration shows an International "Ideco" 74-foot steel derrick over a well of the Bear State Oil Co. near McKittrick, Calif.

This well blew out at 100 feet, hurling rock, dirt, gravel and mud into the air for 60 hours. Two joints of 8-inch pipe were shot from the well like shells from a siege gun and with such terrific force as to be blown through the crown block on top of the tower but with no damage to the derrick itself.

As soon as the well was placed under control, the derrick floor was cleared, the block replaced on top of the derrick and drilling was resumed. The well has since been completed.

CONSUMPTION OF STEEL REMAINS AT EXCEPTIONALLY HIGH AVERAGE

By B. E. V. Luty

PITTSBURGH, Pa., Nov. 19. — The five months' decline in steel production seems to have practically ended about October 1, for the statistics gathered by the American Iron and Steel Institute show that the rate of steel ingot production was only one-half per cent less in October than in September, this comparing with a decrease of 16 per cent from April to September. Even that was by no means a remarkable decrease, seeing that production in April had been at an unexpectedly high rate.

All the steel produced is, of course, shipped, and as buyers have been quite conservative for six months past this sustained heavy production indicates that consignees have immediate use for all the steel received, in other words, that consumption of steel remains at a very high rate.

Very probably there will be a decrease in steel production in the late weeks of the year, but this would not be an unfavorable symptom, being regarded as seasonal in character.

The various steel consuming lines are nearly all doing very well, with no definite prospect of lessening their consumption of steel in the next few months, except in cases where the season of year is a factor.

Steel prices continue to be very well maintained, nearly all lines being at the full levels attained last April. A few relatively minor lines have been somewhat lower, but they have not weakened farther in the recent past.

In others words, the whole steel situation is in much better shape today than the great majority in the trade were expecting a few months ago it would be at this time. A great decline in demand and production had been looked for, together with decided declines in prices of many if not most of the mill products.

As a result of this better showing in steel than was expected, combined with sustained activity in other lines and with a much improved stock market, sentiment has improved further in the steel trade. Producers appear confident that steel prices will hold well into the new year at least. Consumers are exhibiting more confidence. They are not buying ahead but would have no occasion to do so in any event, since there is no talk of higher prices and no apparent danger of deliveries not being obtainable promptly when required.

On the basis of estimated capacity, steel mills are now operating at an average of about 78 per cent, against about 94 per cent at the high point seven months ago. The Steel Corporation is operating at close to 90 per cent and the independents at about 70 per cent.

Pipe mills are running better than most finishing branches of the steel trade, most of the pipe mills being at close to capacity. Shipments of oil country goods have been decreasing continuously, but still represent a moderately good volume. Deliveries are nearing completion on a number of old pipe line orders, but the mills still have some pipe line tonnage ahead, against relatively small orders booked in the past couple of months. Shipments of merchant pipe are very heavy. Prices are strictly maintained.

A moderate amount of oil storage tank business has been done, but details are not obtainable. The Standard Oil Co. is understood to have bought a number of tanks for Casper, Wyo., and the Magnolia Petroleum Co. some for the Powell Field in Texas. Plates continue at 2.50c Pittsburgh and 2.60c Chicago.

Tin plate continues to hold firm in the regular domestic market at $5.50. One order in oil plates has gone at a substantial concession, this being in competition with foreign tin plate as such tin plate would be entitled to rebate of the duty upon exportation of the oil cans.

NEW TANKS AT BRISTOW

The Phillips Petroleum Co., one of the largest producers in the Bristow-Slick district, Oklahoma, is starting erection of two more 55,000-barrel steel storage tanks on the Sturvant tract in the northwest quarter of Section 4-15-10.

Two 55000-barrel, size tanks have just been completed on the Marrs farm, Section 8-15-10, and three tanks of the same size have been completed and filled with crude on the Longfellow farm in Section 9-15-10.

ABOUT DIESEL ENGINES

A practical treatment of the construction, operation and economies of Diesel engines is contained in a volume, "Diesel Engines," by Lacey H. Morrison, of the editorial staff of "Power," published by the McGraw-Hill Book Co., Inc. Special attention is devoted to cooling system, fuels and lubrication, installation and testing.

BOOSTER PLANT CONTRACT

A contract for the erection of a gas booster plant in the Tonkawa Field, Oklahoma, to pump residue gas from several gasoline plants into the plant of the Bartlesville Zinc Co., at Blackwell, Okla., has been awarded to the Gas Engineering & Construction Co., of Pittsburgh and Tulsa, by the Retort Gas Co., of Blackwell, Okla. Orders for five 80-horse power Clark direct driven compressor units to be installed in this plant have been placed with the Clark Brothers Co.

NEW GASOLINE DEVICE

A new device to indicate the price of gasoline at filling stations, with tables giving the correct calculations for different quantities and for price fractions of one-tenth of a cent, has been put on the market by the Gasoline Semaphore Co., of Delaware, Ohio. The "GaSign," as it is called, is about 6 by 10 inches in size with a neat metal frame, and can be read on both sides.

ORDER FIVE CLARK UNITS

Retort Gas Co., of Blackwell, Okla., placed an order with Clark Bros. Co. for five 80-horsepower Clark direct driven compressor units to be installed in their booster plant to be erected in the Tonkawa Field.

INTERNATIONAL CATALOG

The International Supply Co. has received requests for its new catalog from many parts of the United States and several places in foreign countries. The International was formerly the Oklahoma Tool & Supply Co. of Tulsa.

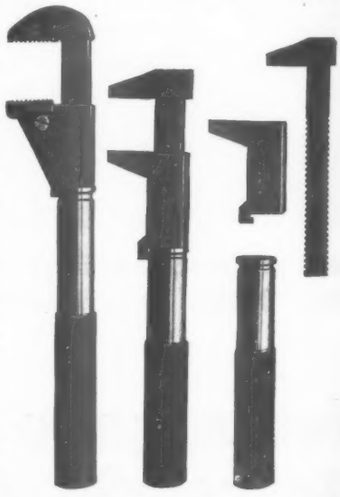
LOOSE LEAF CATALOG

The United Iron Works of Kansas City, Mo., is distributing a catalog describing in detail the equipment and supplies used in the oil industry and manufactured by the company. The catalog is leather bound and loose leaf. The loose leaf feature will make it possible for customers to add new pages whenever new supplies are added or changes are made by the company. The catalog, consisting of over 200 pages, describes standard and extra heavy pipe fittings, refinery equipment, oil well supplies, steel tankage, mechanical refrigerators, centrifugal pumps and deep well pumps, all of which are manufactured and distributed by the company.

PIPE SHOWS STRENGTH

An interesting booklet on wrought pipe has been published by the National Tube Co., Pittsburgh, Pa. "The Seven Wonders of Wrought Pipe" records a number of extraordinary incidents in various fields in which the strength and ductility of the casin gplayed an important part. One of these occurred in the Ponca City, Okla. Field. A 340-foot string of 10-inch casing was hanging in the well when the wire line clamps slipped and let the string drop 236 feet through a 12½-inch hole. "At the bottom of the well," according to the booklet, "this 11,056-pound 'streak of steel' hit solid rock with a bang. ..... The walls of the pipe were bent, or rather rolled up, inwardly, yet there was no fracture of the material."

NEW FEATURED WRENCH

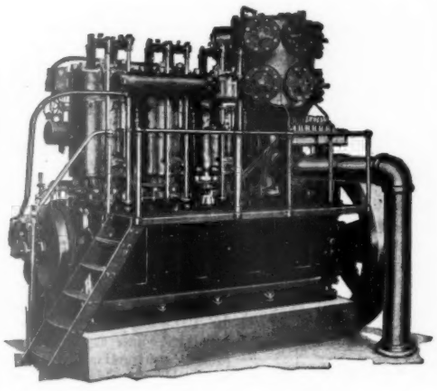


A new wrench, the jaws of which may be opened or closed by turning the handle, has recently been perfected by the Ever-Grip Wrench Co., of Chicago. By means of a screw action between the handle and the shank of the wrench, a turn of the wrist clamps the jaws onto a pipe or nut, so that, as pressure is applied, a part of the power exerted on the handle is transmitted to the jaws.

Another feature of this wrench is that as the jaws are opened, the handle is lengthened, making a 12-inch wrench become a 14-inch wrench when used on a 2-inch pipe or nut.

The fact that the jaws can be adjusted with one hand makes the wrench especially adaptable to oil field use where it has to be used often in precarious positions and where the ability of a wrench to hold on to a nut after it has been removed from a bolt or pipe is a necessary feature.

The Reeves Vertical Gas Engine—Compressors For Gas Booster Plants



Engine Sizes:
40 H. P. up to 250 H. P.

Engine-Compressor Sizes:
60 H. P. up to 160 H. P.

A few of the reasons why leading companies and engineers are purchasing the Reeves Gas Engines and Compressors.

They know the Reeves unit is not an experiment, having proven its reliability and worth over a period of about twenty years successful service.

Account of the simplicity of operation; low fuel and maintenance cost per horse power. One user just reported having operated last four units 16 months without shutdown.

All Compressors equipped with "Hope" Biplane, Patented, easy operating, high speed Valves.

Saving in installation time partly pays for unit.

Saving in plant construction cost from 20 to 50%, depending on location.

Branches Pittsburgh, Penna. Tulsa, Okla. Casper, Wyo

HOPE ENGINEERING & SUPPLY CO.
Mt. Vernon, Ohio, U.S.A.

Consulting and Contracting Engineers in Natural Gas and Oil.

The Reid All Metal Band Wheel Power Fills a Long Felt Want in the Oil Fields

Patented September, 1913

This power has made it possible to pump, with one engine, several deep wells and wells that have to be operated fast to exhaust the water.

It is handling as many as 16 wells, each 2,200 feet deep. It is also handling wells that have to be operated at 30 and more strokes per minute.

A Reid power driven by a Reid engine is the last word in oil well pumping machinery.

JOSEPH REID GAS ENGINE COMPANY, Oil City, Pennsylvania, U. S. A.

Branches and Agencies: Marietta, Ohio; Logan, Ohio; Newark, Ohio; Fort Recovery, Ohio; Haynesville, La.; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Bradford Supply Co., Robinson, Ill.; Frick & Lindsay Co., Kentucky Distributors; S. R. Shoup, 708 Pacific Electric Bldg., Los Angeles, Calif., Oklahoma, Kansas, Texas, Arkansas and Wyoming; Frick-Reid Supply Co., Tulsa, Okla., and Branches. Branch Shop: Tulsa, Okla.

No. 301

GASO SMALL PUMPS

Correct in Design—Sturdy in Construction

No. 604

No. 601

While we have had very gratifying success in the manufacture, sale and operation of **large** pumps (the largest ever built in the Mid-Continent was recently perfected in our shops) we have not allowed this success to interfere with our attention to our smaller pumps. The same careful construction, high-grade material and thorough inspection that thousands of users of our smaller pumps have received is still a part of regular Gaso service. Following is a brief description of the pumps illustrated herewith.

No. 301—Gaso Piston Power Pump. Usable in high pressure work, yet suitable for lease and low pressure work.

No. 604—Walking Beam Pump—for taking gas from pumping well and putting vacuum on well.

No. 601—Walking Beam Pump for oil or water. Has practically no gasket surface.

No. 201—Rodline Pump, designed for general service.

These are just a few of a comprehensive line. The services of skilled engineers are at your disposal in solving your problem. Shall they get in touch with you?

Gaso Pump & Burner Mfg. Co., Tulsa, Okla.

GASO PUMPS

for oil field uses

No. 201

NORTH CENTRAL TEXAS

(Continued from Page 40)

and others' No. 1 Bullock, drilling in shale at 1,115 feet; McGuire and others' No. 1 Carter, fishing for casing at 1,875 feet; Mid-Kansas Oil & Gas Co.'s No. 1 Gibson, has 1,000 feet of oil in the hole and sidereaming to top of lime at 3,750 feet; No. 1 Moren, drilling at 1,715 feet; Dudley Miller's No. 2 Hughes, running 5⅜-inch casing at 2,380 feet; Seaboard Oil & Gas Co.'s No. 4-A Hughes, swabbed 75 bbls. and shut in at 2,580 feet; Smith and others' No. 1 Benton, shut down making preparations to pump a sand showing for a small well at 895 feet; Snowden and others' No. 1 Carter, underreaming 8¼-inch casing at 1,868 feet; Weekly and others' No. 3 McLaren, drilling in brown shale at 1,290 feet.

Stephens County

Completions: Foster and others' No. 2-C Shipley; 1,200 bbls. at 3,155 feet.

Drilling: Critten and others' No. 1 Cobb, running 6-inch casing at 2,950 feet; Mid-Kansas Oil & Gas Co.'s No. 2 Couger, fishing for casing at 3,150 feet; McClain and others' No. 1 Hill, drilling at 3,500 feet; Pierce and others' No. 1 Crudington, showing a small flow of gas at 300 feet and drilling at 455 feet; Texas Consolidated Oil Co.'s No. 5 Martin, drilling at 3,880 feet; Weekly Petroleum Co.'s No. 2 Martin, rigging to drill deeper from 3,500 feet; Humble Oil & Refining Co.'s No. 1 Wild, showing a little oil and shut down at the top of the gray lime at 3,600 feet; No. 4 Brown, drilling with a hole full of water at 3,280 feet; Magnolia Petroleum Co.'s No. 2 George, spraying some oil and drilling in lime at 3,595 feet; No. 12 Rush, running 8-inch casing at 2,315 feet; No. 4 Walker, drilling at 2,280 feet; Mahlstedt and Mook Oil Co.'s No. 1 Boyett, drilling at 2,555 feet, had a gas sand at 2,520 feet that flowed estimated 15,000,000 feet; Prairie Oil & Gas Co.'s No. 1-B Brown, testing casing at 3,155 feet; Royal Palm Oil Co.'s No. 1 Newham, shut down on account crooked hole at 3,260 feet; Scott and others' No. 1 Davis, running 6-inch casing at 2,860 feet; Walker and Caldwell's No. 14 W-C, has 400 feet of oil in the hole and drilling at 3,225 feet.

Eastland County

Completions: Knox-Lewis Oil Co.'s No. 1 Edison, 50 bbls. at 2,845 feet; Lone Star Gas Co.'s No. 2-A Hogg, 30,000,000 feet of gas at 3,120 feet; Panhandle Oil & Refining Co.'s No. 2-S Hightower, dry at 1,345 feet.

Drilling: Ablon and others' No. 1 Collins, drilling at 3,090 feet; Clayton and others' No. 1 Steele, set 8¼-inch casing and drilling at 2,000 feet; Eby and others No. 5 Miller, drilling at 2,165 feet; Gholson and others' No. 2 Shugart, drilling at 2,735 feet; Harrell and others' No. 1 Mahan, 1,885 feet; Humble Oil & Refining Co.'s No. 3 Merrill, drilling in brown shale at 1,000 feet; Kokomo Oil Co.'s No. 1 Harris, small show of gas and drilling in gray lime at 3,130 feet; Magnolia Petroleum Co.'s No. 3-A Rogers, drilling at 2,350 feet; No. 3 Ross, set 6⅝-inch casing and drilling at 2,810 feet; No. 14 Westmoreland, drilling at 1,395 feet; Panhandle Refining Co.'s No. 6 Hightower, at 305 feet; No. 1 Rio Bravo, set 10-inch casing at 1,530 feet; Daugherty and others' No. 1 Johnson, drilling at 630 feet; Gordon Petroleum Co.'s No. 1 Ray, showing some gas and drilling in black lime at 3,575 feet; No. 1 Huntington, set 5⅜-inch casing at 446 feet; Nixon Oil Co.'s No. 2 Parrott, ready to drill deeper at 1,900 feet; Root and others' No. 1 Walker, drilling at 3,385 feet; Rosenfield and others' No. 1 Brunett, fishing for casing at 2,115 feet; Texas Development Co.'s No. 1 Lewis, drilling in shale at 1,500 feet.

Wildcats

Mitchell County—Drilling: Fensland Oil Co.'s No. 1 Badgett, drilling at 2,905 feet; Kelsey and others' No. 1 Badgett, after a shot oil flowed over the derrick, the hole then bridged and are now cleaning out at 3,120 feet; Henry Reilly and others' No. 1-E Morrison, tubing to pump at 3,045 feet; Sloan and others' No. 1 O'Neil, cleaning out after a shot at 3,100 feet; No. 2 Smart, drilling at 175 feet; Underwriters Producing & Refining Co.'s No. 5 Morrison, shot with 170 quarts, the hole bridged at 2,200 feet, cleaning out, total depth, 3,105 feet.

Shackelford County—Drilling: Beggs and others' No. 1 Parrish, fishing job at 1,600 feet; Humble Oil & Refining Co.'s No. 1 Elliott, drilling at 755 feet; No. 1-E Poindexter, at 635 feet; Landreth Production Co.'s No. 2 Lynch, fishing for casing at 3,388 feet; No. 4 Poindexter, drilling at 1,275 feet.

Palo Pinto County—Drilling: Pender and others' No. 1 Slemmons, drilling at 3,895 feet; T. & P. Coal & Oil Co.'s No. 1 Robinson, fishing for tools at 3,590 feet; Thomas and others' No. 1 Thomas, showing some oil and gas and cleaning out after a shot in a lime formation at 3,470 feet; Costello and others' No. 1 Costello, drilling at 975 feet; Dalton Oil Co.'s No. 5 Dalton, has 2,500 feet of oil in the hole and shut down in a sand formation at 4,058 feet; Jones and others' No. 1 Jones, drilling at 1,000 feet; Ligon and others' No. 1 Carter, plugging to abandon at 3,510 feet; Simms Oil Co.'s No. 1 Costello, had a dry sand at 2,340 feet; and drilling at 2,475 feet; Singleton and others' No. 1 Holt, drilling at 2,185 feet; Zada Belle Oil Co.'s No. 1 Weldon, drilling in blue shale at 2,805 feet.

Clay County—Drilling: Gulf Production Co.'s No. 1-A Boddy, drilling at 2,425 feet; No. 3 Worsham, rigging up tools; Knox & Finley Development Co.'s No. 1 Scott, running a collar buster on top of an oil sand at 1,050 feet; Nebraska Oil & Gas Co.'s No. 1 Myers, fishing for tools at 3,280 feet.

Cooke County—Drilling: Big Indian Oil Co.'s No. 1 Davis, underreaming 6-inch casing at 2,700 feet; Red River Drilling Co.'s No. 1 Jones, drilling in blue shale at 1,235 feet.

Jack County—Drilling: Duncan and others' No. 1 Woodward, drilling at 1,150 feet.

Montague County—Drilling: The Texas Co.'s No. 1-A Gist, reaming the hole for a seat at 860 feet; Amerada Oil Co.'s No. 1-A Beasley, drilling in blue shale at 2,715 feet; Gulf Production Co.'s No. 1 Benton, testing an oil sand at 2,135 feet; Humphreys Oil Co.'s No. 3 Maddox, drilling at 2,400 feet; the Texon Oil Co.'s No. 1-A Crenshaw, drilling in blue shale at 1,905 feet.

Wilbarger County—Drilling: Byrne & Co.'s No. 1 Cordor, shut down account litigation at 1,950 feet; Robinson and others' No. 1 McCaleb, drilling at 1,950 feet; Knight and others' No. 1 Potts, drilling at 725 feet; Noble Oil Co.'s No. 1 Waggoner, drilling at 930 feet; South Vernon Oil Co.'s No. 1 Stephens, underreaming 8¼-inch casing to 1,545 feet.

Gray County—Drilling: The Texas Co.'s No. 1 Saunders, underreaming 10-inch casing at 1,570 feet; Holmes and others' No. 1 Moran, shut down for fuel at 850 feet.

Armstrong County—Drilling: Magnolia Petroleum Co.'s No. 1 J. A. Ranch, drilling in lime and blue shale at 2,400 feet.

Carson County—Drilling: Gulf Production Co.'s No. 3-A Burnett, underreaming pipe at 3,145 feet; Humphreys Oil Co.'s No. 1 Sandford, fishing for three strings of tools at 2,530 feet.

Dallam County—Drilling: Kellerman and others' No. 1 Jones, drilling by junk at 1,640 feet.

Hutchinson County—Drilling: Coline Oil Co.'s No. 1 Sanford, cleaning out at 3,185 feet; Humphreys Oil Co.'s No. 1 Johnson, cleaning out at 2,585 feet; Montgomery and others' No. 1 Johnson, running 10-inch casing at 1,520 feet; McGee and others' No. 1 Smith Capers, cleaning out and drilling deeper at 3,175 feet.

Potter County—Drilling: Producers & Refiners Corp.'s No. 2 Masterson, drilling in brown rock at 2,605 feet; same company's No. 1-A Bivens, drilling in red beds at 2,275 feet; No. 2-A Bivens, drilling at 815 feet.

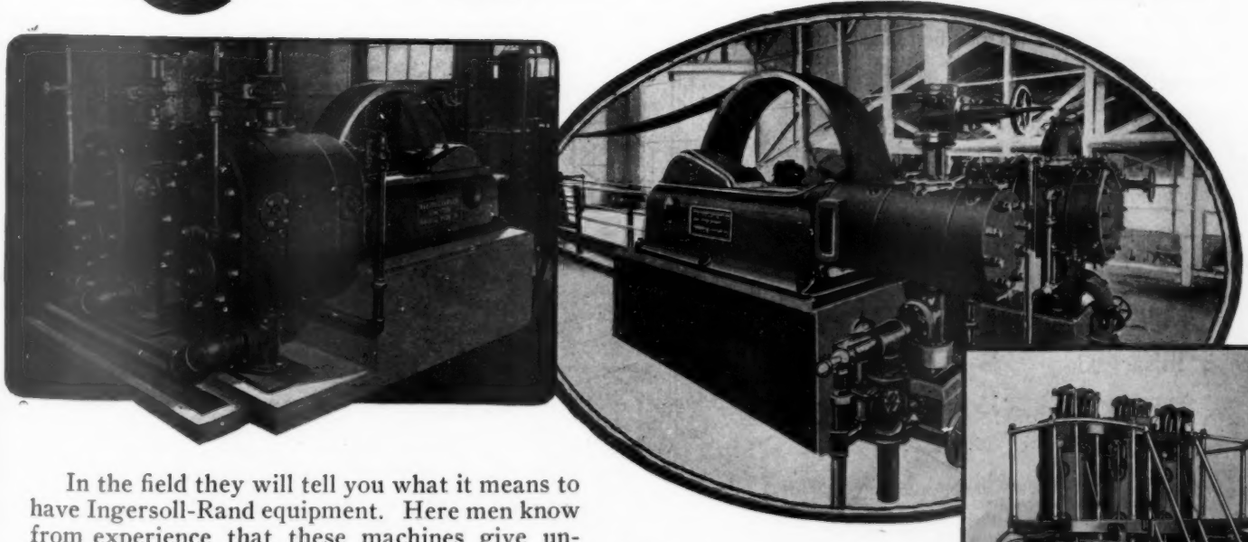
Wheeler County—Drilling: Tyrell

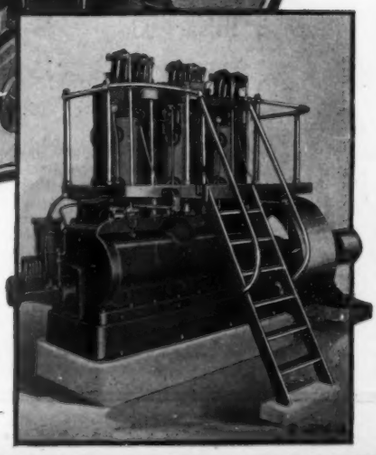
(Continued on Page 68)

ONE reason for the popularity of The Star Portable Drilling Machine is the saving of time and expense of moving and rigging up. A Star will do for you what it does for others as told in our booklet "PROOF"—sent upon request.

The Star Drilling Machine Co.
Akron Ohio
Factories
Akron Ohio, Chanute Kans., Portland Ore., Long Beach, Cal.
Export Office: 2 Rector St., New York

GASOLINE EXTRACTION EQUIPMENT





In the field they will tell you what it means to have Ingersoll-Rand equipment. Here men know from experience that these machines give uninterrupted, reliable service under the most severe duty.

They appreciate that the buidlers know their problems and have furnished machinery built to meet the conditions.

And, they know that there is an Ingersoll-Rand office nearby where they can get immediate attention and the services of engineers whose specific duty is to co-operate with owners and operators of gasoline extraction plants.

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747-C

–but him bein' a frugal man

A man may, if he knows not how to save as he gets, keep his nose to the grindstone.
—CHESTERFIELD.

I'M a General Service Type Pump. My name is legion. Many, many manufacturers make us and we all sell for about the same price.

I feel miserable. I was assembled by boys who work by the piece. I am very much in need of repairs, but my worn parts are not easily accessible.

Sometimes I feel that in Oil Country Equipment there is no greater misfortune than to be a General Service Type Pump. And still there are some branches of our prodigious family that are very good indeed.

There is that Transit Duplex Piston Pump. Its design is such that all its parts are easily accessible for inspection or repair. Its fluid passages are large and direct with ample valve area. Its fluid cylinders are fitted with bronze tube liners, properly secured. If I had been made with the skill and care that it is, I might be able to amount to something too.

A great many oil men have ceased trying to discriminate—there are so many of us. My boss says I'm about done for, but him bein' a frugal man I reckon I'll soon be replaced with one of those Transit Duplex Piston Pumps, General Service Type, sold by Frick-Reid.

Oh-hum! What's the use?

In Oil Field Equipment the most HUMAN organization in America

Frick-Reid Supply Co.

Tulsa, Okla. Pittsburgh, Pa.

West of the Mississippi—Stores Everywhere

Dreadnaught and other Rotary Equipment—Complete Cable Tool Equipment—Reid Gas Engines and Powers—Donovan Boilers—Roebling Wire Lines—Whitlock Cordage—F-R Electric Light Plants—Axelson Working Barrels and Sucker Rods—Rensselaer Valves—National Transit Pumps—Jones and Laughlin Tubular Goods—Ratigan Beam Hangers, Sure Grips, etc.—Camel Hair Belting—F-R Drilling and Pumping Service Belting—Warren Steam Engines, etc.

EASTERN PIPE LINE REPORT FOR THE MONTH OF OCTOBER

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1920	1921	1922	1923
January	56,004	64,460	67,702	75 790
February	68,699	70,054	75,096	71,093
March	67,745	68,555	78,531	76,592
April	64,589	65,036	75,462	75,614
May	63,937	65,466	77,592	77,365
June	68 750	62,438	76,193	77,592
July	66,489	59,486	76,435	71,879
August	63,861	64,888	79,387	76,910
September	68,102	60,110	78,512	72,358
October	65,066	57,688	77,209	76,256
November	62,758	58,470	75,313	.....
December	60 975	61,000	73,351	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1920	1921	1922	1923
January	98,835	115,550	119,792	171,067
February	107,146	96,736	111,362	164,219
March	110,777	84,168	127,753	185,487
April	114,090	101,015	127,068	179,761
May	110.219	100,253	127 840	177,102
June	102.598	105,037	137,638	173,598
July	112,340	97,096	137.872	168,330
August	122,296	101,652	153,275	142,766
September	127,131	117,440	158,761	137,266
October	122,891	105 728	165,345	134,597
November	117,730	121,803	165,677	.....
December	117,201	104.023	172,861	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1921	1922	1923
January	7,916,353	16,297,858	14,040,567
February	8,721,878	17,009 293	14,028,437
March	9,818,766	16,877,937	13,873,146
April	10,369,941	16,777,842	13,737,575
May	11,224,694	16,948,962	13 815,622
June	12,328,126	16,810,169	14,541,253
July	13,798,698	16,669,286	14,645.584
August	15,155,633	16,235 229	14,770,539
September	15,525,750	16.228,545	14,803,444
October	15,761,079	15.757,746	14,504,111
November	14,971,071	15.171,972	.....
December	15 854.741	14.323,765	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

	Receipts	Shipments	Stocks
1922—			
October	3,368.58	4,783.61	29,313.13
November	3,052.75	2,230.18	30,135.70
December	3,076.36	1,292.84	31,919.22
1923—			
January	2,798.55	2,461.36	32,256.41
February	2,692.93	932.33	34,017.01
March	2,978.88	12,417.00	24,578.89
April	3,529.12	3,054.09	25 053.92
May	3,538.73	4,856.42	23,736.23
June	2,927.71	4,743.78	21,920.16
July	2,996.64	1,471.57	23,445.23
August	3,199.07	3,769.34	22,874.96
September	2,829.79	5,822.38	19,882.37
October	2,694.23	5,251.81	17,324.79

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, Nov. 1	2,466,238.64
Runs from wells	544,861.93
Other receipts	119,965.33
Regular deliveries	228,961.55
Other deliveries	474,479.61

The amount of Illinois oil run by the Tide Water Pipe Line Co. on October was 32,005.16 barrels, and deliveries were 118,-851.27 barrels. Adding these figures to those of the Illinois Pipe Line Co., makes the runs and deliveries from the Illinois Field as follows:

	Runs	Deliveries
1922—		
October	618,459.82	454,005.38
November	566,508.03	434,681.97
December	552,069.33	391.868.37
1923—		
January	599,239.86	470,958.84
February	496 421.79	382,566.83
March	625,006.81	472,920.76
April	521,910.87	423,548.43
May	624,107.98	523,515.00
June	582,511.82	509,137.77
July	594,653.42	489,269.17
August	594,747.94	367,152.82
September	542,561.59	305,925.40
October	576 867.09	347,812.82

The Tide Water Pipe Co., Ltd., also delivered in October 192,614.57 barrels of Oklahoma oil. The total deliveries of all grades by the Tide Water were 477,869.02 barrels.

Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for September and October:

	Sept., '23	Oct., '23
Nat. Transit	188,712.66	211,486.93
S. W. Pa. P. L.	82,300.00	93,355.92
Eureka P. L.	368,672.93	430,327.54
Buckeye P. L. (Macksburg)	250.485.71	280,073.58
Buckeye P. L. (Cleveland)	16,280.77	19,218.85
Buckeye P. L. (Lima, etc.)	139 388.04	144,889.47
Indiana P. L.	14,150.22	14,811.54
Cumberland P. L.	386,752.33	399,736.19
N. Y. Transit	15,261.47	17,402.53
Tide Water P. L.	149,139.68	163,016.59
Pure Oil P. L.	177,281.66	190,792.36
Emery P. L.	31,486.08	35,209.98
Paragon Ref.	.....	.....
Indian Ref.	309,242.57	315,405.99
Paragon Dev.	33,320.51	31,501.81
Pittsburgh P. L.	8,272.29	10,612.83
Swiss P. L.	995.34	1,015.89
Riggs Ref.	.....	5,083.17
Total	2,170.742.30	2,363,937.27
Daily av.	72,358.08	76,256.04

Note—Indian Refining Co. also reported other receipts of 92,674.20 bbls. Paragon Refining Co. had other receipts of 117,-513.75 bbls. Paragon Development Co. had other receipts of 5,932.65 bbls. Pittsburgh Pipe Line had other receipts of 2,587.79 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for September and October:

	Sept., '23	Oct., '23
Nat. Transit	412,333.27	497,929.96
S. W. Pa. P. L.	261,116.40	283 546.24
Eureka P. L.	130,178.48	126,716.26
Buckeye P. L. (Macksburg)	86,985.91	82,031.33
Buckeye P. L. (Cleveland)	1,056.36	1,190.92
Buckeye P. L. (Lima, etc.)	693,616.91	641,793.54
Indiana P. L.	924,686.09	871,560.84
Cumberland P. L.	160,116.97	210,110.54
Southern P. L.	.....	.....
Crescent P. L.	73,331.96	96,990.57
N. Y. Transit	359,939.97	487,333.82
Northern P. L.	69,794.27	32 004.07
Tide Water P. L.	180,612.43	166,403.18
Pure Oil P. L.	173,186.23	152,289.34
Emery P. L.	31,492.26	34,574 09
Paragon Ref.	114.947.24	145,280.60
Indian Ref.	294,144.15	291,983.99
Paragon Dev.	37,152.37	37,398.15
Pittsburgh P. L.	11,341.66	13,262.01
Swiss P. L.	1,939.86	94.20
Riggs Ref.	.....	.....
Total	4,017,972.79	4,172 493.66
Daily average.	137,265.76	134,596.57

Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of September and October were as follows:

	Sept., '23	Oct., '23
Nat. Transit	1,197,343.90	1,197,386.76
S. W. Pa. P. L.	924,128.98	879,120.26
Eureka P. L.	1,934,234.44	2,004,502.23
Buckeye P. L. (Macksburg)	492 970.70	500,740.53
Buckeye P. L. (Cleveland)	12,414.25	30,341.60
Buckeye P. L. (Lima, etc.)	4,214,807.68	4,305,655.97
Indiana P. L.	681,376.15	664,425.63
Cumberland P. L.	732,274.03	667,160.74
Southern P. L.	959,768.25	1,027,470.36
Crescent P. L.	78,603.29	69,131.69
N. Y. Transit	1,739,879.71	1,457 294.82
Northern P. L.	930,869.95	664,694.04
Tide Water P. L.	.....	.....
Pure Oil P. L.	293,002.25	323,826 50
Emery P. L.	5,811.39	6,273.97
Paragon Ref.	180,341.45	166,464.86
Indian Ref.	400,841.76	516,278.86
Paragon Dev.	11,121.59	10,052.07
Pittsburgh P. L.	9,171.35	9,272.45
Swiss P. L. Co.	4,482.75	2,861.55
Riggs Ref.	.....	1,146.43
Total	14,803,443.87	14,504,110.53
Increase	32,905.27	
Decrease	.....	299,333.34

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of September and October, showing the gross stocks of the above fields:

	Sept., '23	Oct., '23
Pennsylvania	3,601,488.55	3,791,868.58
Lima	888,203.63	937,787.17
Kentucky	1,998,875.17	1,964,677.82
Mid-Continent	7,951,689.79	7 244,243.63
Illinois	363,186.73	565,533.34
Total	14,803,443.87	14,504,110.53

DEATH OF H. SEYFANG

BRADFORD, Pa., Nov. 12.—Herbert H. Seyfang, aged 35, prominently known in the oil business throughout this district, died at his home here last night, after an illness of stomach trouble lasting about two days. He is survived by his mother, Mrs. Cecelia Seyfang, of Bradford; three sisters and two brothers, Charles, of Bardford, and John, of Buffalo.

ELECTRIC DRILLING IN MEXICO

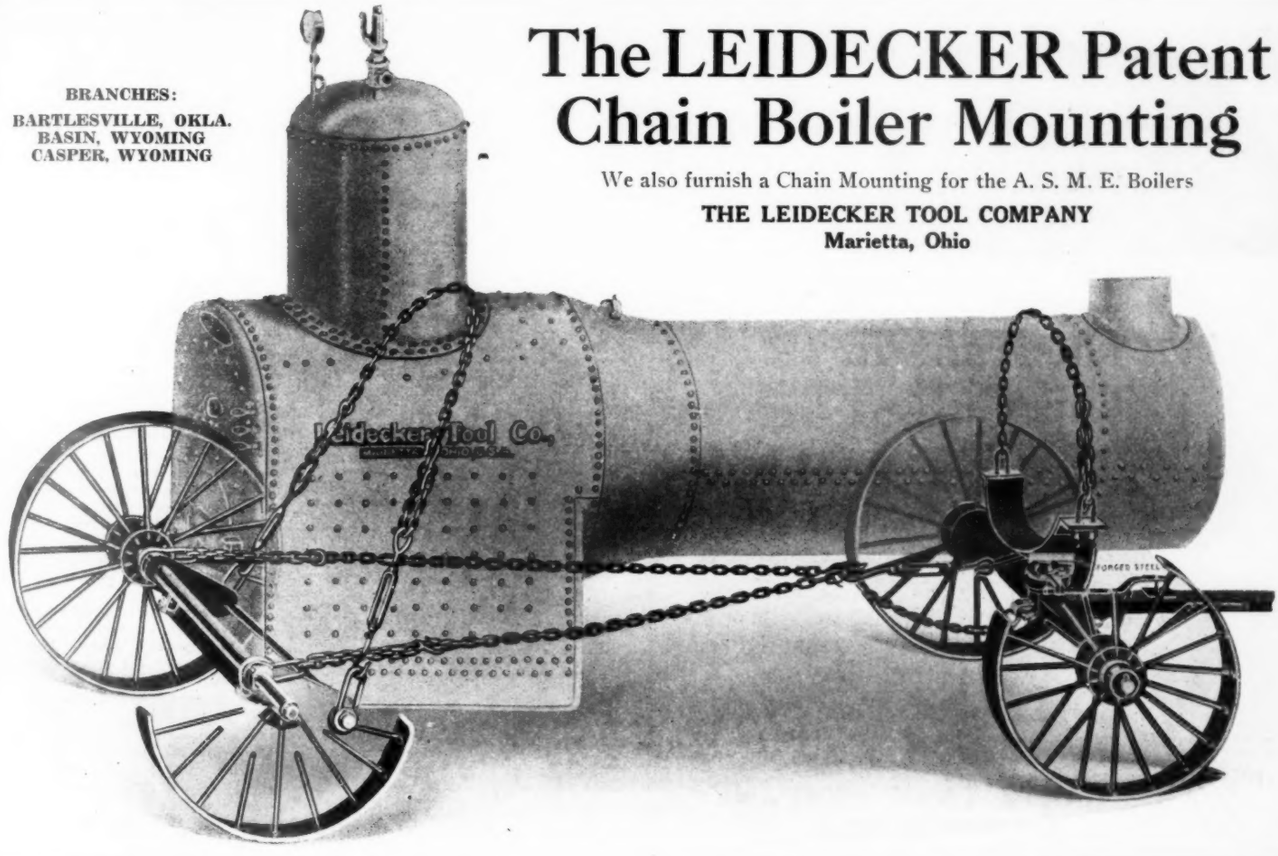
The first drilling permit ever granted covering territory in the State of Puebla, Mexico, has been issued to the Corporacion Petrolera Mexicana, S. A. This permit covers an extension of about 13,000 hectares in the northern part of the State, and it is on this well that electrically driven equipment is to be used for the first time in Mexico.

BRANCHES:
BARTLESVILLE, OKLA.
BASIN, WYOMING
CASPER, WYOMING

The LEIDECKER Patent Chain Boiler Mounting

We also furnish a Chain Mounting for the A. S. M. E. Boilers

THE LEIDECKER TOOL COMPANY
Marietta, Ohio

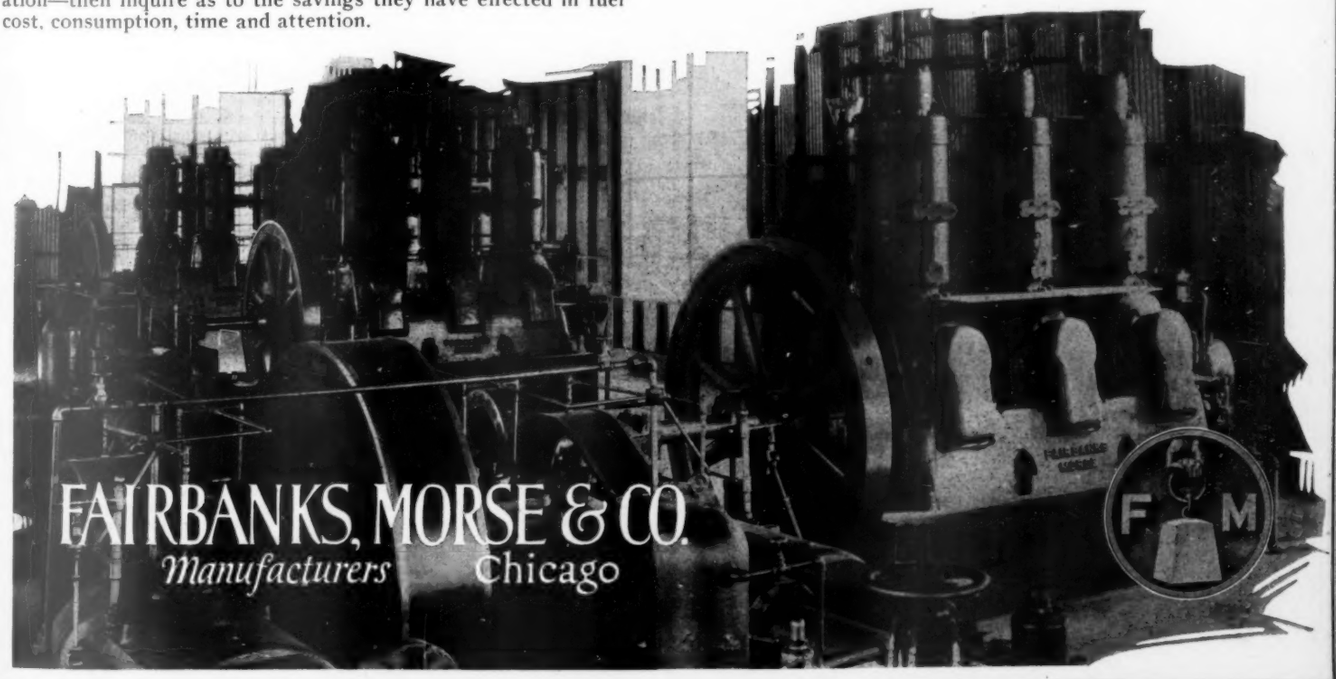


Fairbanks-Morse "Y" Oil Engines

CUT YOUR POWER COST

and at the same time increase the efficiency and dependability of your plant. "Y" Engine owners are demonstrating this every day right in your own vicinity. Ask to see their plant in operation—then inquire as to the savings they have effected in fuel cost, consumption, time and attention.

Three 150 H. P. Fairbanks-Morse Type "Y" Oil Engines direct connected to 4½x18 Power Pumps are used for pipe line pumping.



The Tank in This Cut

has been reset twice and is giving the same satisfactory service after seven years of use.

Nothing unusual for we use Armco-Ingot Iron which outlasts any other material and our special type of construction will make the tank tight in spite of wear and tear.

Bolted and Welded Tanks

GANTZ TANK COMPANY
SAPULPA, OKLA.

Cosden & Company

TULSA, OKLAHOMA

Manufacturers and distillers of high grade Gasoline, Naphthas, Lubricating and Illuminating Oils.

Unexcelled Producing—Refining Transporting Facilities

NORTH CENTRAL TEXAS

(Continued from Page 64)

and others' No. 1 Sheldon, fishing for tools at 970 feet; Whittington and others' No. 1 Williams, showing 40,000,000 feet gas and shut in at 2,150 feet.

PRODUCTION REPORT

Week Ending November 15, 1923

Burkburnett	
American Ref. Co.	240
Barkley & Meadows	2,210
Humble Oil & Ref. Co.	680
Gulf Prod. Co.	1,700
Magnolia Pet. Co.	3,800
Middle States Oil Co.	260
McMahon Oil Co.	490
Panhandle Ref. Co.	535
Sinclair Oil & Gas Co.	35
The Texas Co.	725
Texhoma Oil & Ref. Co.	580
Miscellaneous	11,550
Total	22,805
Electra	
Empire Gas & Fuel Co.	1,900
Humble Oil & Ref. Co.	130
Griswold Oil Co.	580
Gulf Prod. Co.	990
Magnolia Petroleum Co.	5,260
Middle States Oil Co.	160
McMahon Oil Co.	220
The Texas Co.	5,175
Texhoma Oil & Ref. Co.	2,550
Miscellaneous	5,360
Total	22,325
Iowa Park, Archer County and Petrolia	
Iowa Park—	
American Ref. Co.	40
Griswold Oil Co.	35
Gulf Prod. Co.	65
Texhoma Oil & Ref. Co.	40
Miscellaneous	1,840
Archer County—	
American Ref. Co.	400
Griswold Oil Co.	535
Gulf Prod. Co.	380
Humble Oil & Ref. Co.	100
The Texas Co.	925
Texhoma Oil & Ref. Co.	1,955
Miscellaneous	13,935
Petrolia—	
Gulf Production Co.	85
Magnolia Petroleum Co.	50
The Texas Co.	90
Miscellaneous	160
Total	20,635
Stephens County	
Empire Gas & Fuel Co.	75
Gulf Prod. Co.	1,665
Humble Oil & Ref. Co.	1,290
Magnolia Pet. Co.	945
Mid-Kansas Oil & Gas Co.	1,940
Prairie Oil & Gas Co.	940
Sinclair Oil Co.	210
The Sun Co.	1,055
The Texas Co.	3,085
T. & P. Coal & Oil Co.	1,215
Miscellaneous	11,390
Total	23,810
Eastland County	
Empire Gas & Fuel Co.	25
Gulf Prod. Co.	675
Humble Oil & Ref. Co.	90
Magnolia Pet. Co.	555
Mid-Kansas Oil & Gas Co.	30
Panhandle Ref. Co.	450
Prairie Oil & Ref. Co.	785
Sinclair Oil Co.	465
The Sun Co.	15
The Texas Co.	310
T. & P. Coal & Oil Co.	1,020
Miscellaneous	3,775
Total	8,195
Other Fields	
Strawn—	
T. & P. Coal & Oil Co.	235
Miscellaneous	440
Moran—	
Empire Gas & Fuel Co.	160
Humble Oil & Ref. Co.	625
The Texas Co.	165
Texhoma Oil & Ref. Co.	230
Miscellaneous	3,115
Coleman County—	
Miscellaneous	120
Brown County—	
Miscellaneous	485
Comanche-Eastland—	
Humble Oil & Ref. Co.	400
Empire Gas & Fuel Co.	15
Magnolia Pet. Co.	1,260
Mid-Kansas Oil Co.	200
Prairie Oil & Gas Co.	235
Sinclair Oil & Gas Co.	65
The Texas Co.	330
T. & P. Coal & Oil Co.	410
Miscellaneous	4,075
Young County—	
Gulf Production Co.	195
North American Ref. Co.	150
Sinclair Oil & Gas Co.	105
Oklahoma Pet. & Gas Co.	115
Panhandle Refining Co.	335
The Texas Co.	155
Miscellaneous	3,600
Mitchell County	860
Reagan County	150
Jack County	30
Total	18,260
Total all fields	116,030
Total last week	112,365
Gain	3,665

GULF COAST

(Continued from Page 44)

Oil & Refining Co., which has been buying most of the production, put the price last week to 85 cents from $1 and as a consequence many of the drilling tests are shut down. Culver and others have resumed work on the deep test on the Bremond, 10 miles southeast of Rockdale, and are sidetracking at 2,860 feet. The rig has been shut down since May last.

Southwest Fields

Little of importance developed in either the Luling or the Laredo districts during the week. The Big Gusher Oil Co.'s No. 1 Walker, 1 mile east of production in the Luling Field, shows for a 50-bbl. well in hard lime rock at 2,200 feet. It is being deepened. Northeast of production, the Mahlstedt Mook Oil Co.'s No. 1 Fields is showing oil and gas at 2,248 feet. The producing lime in the field is found around 2,160 feet. The United North & South Oil Co. has a deep test in No. 1 Manford, located south of the field and across the San Marcos River in Guadalupe County. It is drilling below 3,100 feet. The bit will be sent to 3,500 feet, if nothing is found above that depth. In Caldwell County, the Midwest Texas Oil Co.'s No. 1 Garcia is drilling below 2,800 feet. The Atlantic Oil Production Co. has a location on Plum Creek, southeast of Lockhart. A number of wells in the Luling Field have been drilled to the pay and shut down.

In the Laredo districts, the Aztec Oil Co.'s No. 1 in the Aviator Field, is making 100 bbls. initial. Russell & White's No. 1 Wolcott is making oil and gas by heads and is rated as a 200-bbl. well at 1,666 feet.

The three wells producing 45-degree gravity oil are attracting much attention. The high gravity sand is found around 1,940 feet and the three producers are wells that were deepened from the original pay sands from 1,550 to 1,600 feet. The Magnolia Petroleum Co. has two of the wells and the Carnahan Oil Co. one. They are in the Mirando City-Schott district, and more old wells will be deepened to see how extensive an area the light gravity sands cover. F. V. Faulkner, manager of the production department of the Magnolia Petroleum Co., Dallas, and several of his assistants visited the Laredo and Luling districts during the week. The Magnolia Petroleum Co.'s No. 12 was the first to get the light gravity sand at 1,940 feet. It is now pumping 35 bbls. per day. The Carnahan Co. deepened No. 8, located 800 feet from the Magnolia's No. 12, and got the pay at 1,935 feet. The bit went into the sand less than one foot. The Magnolia Co. then deepened its No. 2 to 1,940 feet and it is making 175 bbls. by heads.

Chandler and others have spudded in No. 1 Wolcott.

CENTRAL WEST

(Continued from Page 48)

North Weir Field of Lawrence-Johnson Counties was the Union Gas and Oil Co.'s second well on the J. C. Skaggs farm, with a flush of 20 bbls. This company is drilling its No. 4 E. H. Skaggs.

Two completions are reported from the South Weir Field of Johnson-Magoffin County, and in the Elna district. The Atlantic Oil Producing Co.'s No. 10 on the Henry Cantrell east 40 acres, estimated at 10 bbls. and R. G. Gillespie's No. 2 on the J. J. Bliss farm, 5 bbls.

The Cumberland Pipe Line Co. handled through its eastern Kentucky gathering lines for the week, a total of 82,148.75 bbls. for a daily average of 13,691.46 bbls. The runs for the previous week were 85,495.68 bbls., for a daily average of 14,249.26 bbls.

Clay City, Powell County, is to have natural gas for fuel and lights. This town through its trustees has granted a franchise for the piping of the town to the Associated Coal and Gas Co., incorporated, a West Virginia corporation, to construct, maintain and operate a gas plant, and to distribute natural gas in the town of Clay City, work to start within three months. The price to consumers is not to be above $1.15 per 1,000 feet as long as gas can be supplied from nearby fields.

Paintsville won in a bond issue of $50,000 for the construction of a water plant for that fast growing oil city.

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TRADE MARK
INGOT IRON

Made to Stand SEVERE SERVICE

IN EVERY oil and gas field, tanks made of Armco-Ingot Iron have proved their resistance to corrosion.

It takes good sheet metal to do that. And Armco-Ingot Iron is good because it is made by a process that produces the purest grade of commercial iron.

Being commercially pure iron, Armco-Ingot Iron is free from spots of impurities—the spots that quickly fall a prey to rust and turn into holes. Furthermore, the velvety surface of Armco-Ingot Iron has a texture that **grips** and **holds** paint, adding to the long life of service.

Gas tanks are subjected to especially severe service conditions. In addition to the attacks of acid from within, gas tanks are alternately wet and dry from the water seal. But even after years of such exposure, Armco-Ingot Iron gas tanks are in perfect condition.

Such long-lasting iron is not made by mere chance. It is the result of rigid selection of all raw materials; scientific control of every manufacturing process; and careful inspection to the end that every sheet of Armco-Ingot Iron shall measure up to the Armco standard of quality and service.

THE AMERICAN ROLLING MILL CO.
Middletown, Ohio

REFINING AND MARKETING SECTION

E. R. RATCLIFFE RESIGNS FROM INVINCIBLE OIL

SHREVEPORT, La., Nov. 19.—E. R. Ratcliffe has announced his resignation as president of the Invincible Oil Corp., New York, and its subsidiary, the Louisiana Oil Refining Corp. of this city, effective December 1. A desire for a rest and time to devote his activities to his own interests were given as reasons for the resignation.

The Louisiana Purified Petroleum Products Co. was organized through the efforts of Mr. Ratcliffe and it built and operated one of the first, if not the first, refinery in Shreveport more than 12 years ago. He was the first president of the Louisiana Oil Refining Co., which was organized from the Louisiana Purified Products Co.

Another reorganization took place in 1917 through which was formed the Louisiana Oil Refining Corp., which was merged in 1919 with the Invincible Oil Corp. of New York, with its organization complete in eery particular from production through to the last element of distribution and with properties in Louisiana, Texas, Oklahoma and more recently in Arkansas.

Mr. Ratcliffe was succeeded by Richard B. Kahle, who became associated with the organization on October 10, joining it soon after the forthcoming resignation was announced, with the title of executive vice president. He has had a wide experience in the industry, having been vice president of the Owl Oil Co. of Oklahoma, with offices in Chicago, and previously had a number of years' experience in all branches of the activities of the Standard's Canadian subsidiary, the Imperial Oil Co., and with the Standard of New Jersey.

Mr. Ratcliffe retains his interests in the Louisiana Corp. and will make his home and headquarters in Shreveport.

INDEPENDENTS MARKET MORE THAN STANDARD

The Standard Oil Co. of Nebraska marketed 35.1 per cent of all the gasoline and kerosene sold in Nebraska the first seven months of this year, according to a report made by the State department in charge of State inspections. The Sinclair Refining Co. is the next largest marketer in the State, handling 5.3 per cent of the entire sales. Jobbers classed as strictly independent marketed over 50 per cent of the entire output.

Following are the sales of the larger companies:

	Gasoline	Kerosene	Total
Standard	20,629,258	6,803,038	27,432,296
Sinclair	3,637 456	803,510	4,170,966
Manhattan ..	3,066,145	655,746	3,721,891
Mutual	2,346,041	773,766	3,119,807
Nicholas	2,687,511	383,323	3,070,834
B. & L.			
Fairbury	910,705	267,280	1,177,985
Coryell & Son	800,000	200,000	1,000,000
Other Cos....	28,071,747	6,300,461	34,372,208

NAMES ARE CHANGED

The marketing subsidiaries of the Cities Service Co. in the Southwest in the future will all bear the name of the Cities Service Oil Co., according to an official announcement. The names of the Producers Refining Co., Crew Levick Co. of Delaware and C. A. Stannard Co. will all be changed to the Cities Service Oil Co. The change in name in no way affects the management of the companies. L. G. Coleman will be general manager of the company with headquarters in Fort Worth. The company has a large number of bulk and service stations throughout the Southwest.

NEW OIL GAS PLANT

HOUSTON, Tex., Nov. 19.—Work on a plant to make gas from heavy gravity crudes has been started at Magnolia Park, a suburb of Houston. Thirty-two miles of mains will be laid to pipe the town, which is mainly a residential addition. The gas will be manufactured under the process owned by the Oil Gas Process Co. of San Francisco and will be installed on a royalty basis by Leon B. Jones, of San Francisco, and S. C. Lowe, of Houston, gas engineers. The cost of the plant and mains will aproximate $265,000. A number of these plants using the same process are in operation on the Pacific Coast, Arizona, New Mexico and more have recently been installed in the New England States. The Magnolia Park plant is the first in the Southwest. They are of interest to oil men because they create an additional demand for crude.

TO USE NEW PROCESS

The Davison Chemical Co. has closed a contract for the Silica Gel Corp. with the Vacuum Oil Co. for a silica gel refining plant to be erected immediately at Paulsboro, N. J. This plant will have a capacity for refining 5,000 bbls. of gasoline a day and should be in operation in five months. The plant being constructed for the Royal Dutch-Shell subsidiary at New Orleans is expected to be in full operation about January 1.

The Vacuum Oil contract is probably the most important made so far by the Silica Gel Corp.

The silica gel process refines crude gasoline by absorption and is said to produce a much purer grade of gasoline than the acid process now in use. Silica gel is a white powder, a silica compound with remarkable properties of absorbing. It is more active than charcoal and with washing can be used over and over.

OIL FOR HOUSE HEATING TOPIC AT CONFERENCE IN NEW YORK

By N. O. Fanning

NEW YORK, Nov. 19. — More than one hundred oil men, architects and others met here to discuss oil burning for homes from every angle. The meeting proved the great interest in the question which exists among all classes, whether in the producing end of the business or in the use of oil burners.

The meeting was called by H. L. Doherty & Co. as the first step in the formation of an association to promote domestic oil burning. The purpose is to call another meeting in the near future, when a permanent organization can be formed. It will be open to men engaged in all branches of the petroleum business and to those engaged in the manufacture of oil burning apparatus.

The addresses at the meeting ranged from extreme optimism to extreme pessimism regarding the present state of the business of supplying and serving domestic oil burners, but all agreed that oil burning in the homes is one of the biggest fields for oil consumption, if developed rightly.

Among the speakers was C. G. Sheffield, head of the furnace oil department of the Standard Oil Co. of New Jersey. Mr. Sheffield stated that one of the most important phases of the new industry will be the servicing of equipment installed. He suggested that this should be a duty of the burner manufacturer and based this assertion on the fact that the petroleum industry is subjected to more competition than is the new industry of burner manufacturing. He agreed that there must be some satisfactory cooperation in the industry and that in certain respects it become standardized. He said the customer wants to know which is a good burner, which is a bad burner and that he wants to get authoritative advice, and this advice should come from a burner association or club or organization. Mr. Sheffield also suggested to the burner manufacturers that one of the best things they can do to cooperate with the petroleum industry is to urge the purchaser of oil burning apparatus to install large storage tanks instead of small ones as the cost of many deliveries would necessarily have to be taken care of in the price for the fuel oil.

To Encourage Inventors

Judge Byrne, head of the Connecticut Oil Co., said he was highly in favor of proper utilization of oil for house heating purposes and stated that because of the infancy of the industry, a large number of different types of burners, in his opinion, would not be a menace. He urged that the designing and manufacture of burners be stimulated and that inventors be spurred to produce a highly efficient utilization unit rather than discouraged by too many rules and regulations so early in the history of the new industry.

Among the other speakers was R. L. Welch, general counsel, and Dr. Van H. Manning, director of research, both of the American Petroleum Institute. Mr. Welch pledged his support to the advancement of oil burning and called attention to the fact that at the coming annual meeting of the institute time would be set aside especially for the discussion of the subject from all angles. Oil burner manufacturers will be represented at this session, he said. Dr. Manning said that as an individual he was highly in favor of the movement to heat American homes with oil as an efficient substitute for anthracite coal and that he would be a booster for such work.

Combustion Engineer Speaks

Henry O. Loebell, head of the Combustion Utilities Co. in New York, said that in his opinion there are now too many kinds of oil burners on the market and too many irresponsible manufacturers marketing products of inferior quality. Mr. Loebell said there are more than 1,500 different types of burners in the country now being made and sold, and he urged that when an association is formed steps should be taken to aid the manufacturer of good and practical burners and the efforts of those who are making the inefficient apparatus should be discouraged. He stressed the obvious fact that the value of oil to the consumer lies in the appliance, and recommended that the new association should tolerate no inefficient apparatus.

Question of Right Burner

One of the leading subjects was the question of weeding out the bad burners among the 1,500 brands now being made, all of which, according to the general opinion, could not be efficient. While some of the speakers thought that this could be done by forming an association, such as the Board of Fire Underwriters,

(Continued on Page 82)

NEBRASKA OIL MEN ISSUE NEW BOOKLET

The "Nioma Service Bulletin" is the name of a 52-page booklet just issued by the Nebraska Independent Oil Men's Association. The booklet, which will be a monthly feature of the association's activities, is published at the Omaha, Neb., headquarters of the company. Charles M. Sutherland, appointed secretary of the association several months ago, has charge of the publication.

The bulletin contains several news features and editorial discussions of matters of special interest to the independent oil jobber in Nebraska. It is planned to perfect a connecting link between all members of the association through the use of the name "Nioma." The membership will display the name in connection with all their advertising so that consumers may be able to know where to buy independent products throughout the State.

SKIMMING PLANT AT HEALDTON, OKLA., SOLD

At an auction sale held by receivers at Ardmore, Okla., last week, the properties of the Bay State Refining Co. at Healdton, Okla., were sold to the Westheimer-Daube interests of Ardmore. The properties sold include the 1,000-bbl. skimming plant located at Healdton, a 4-inch pipe line extending from the plant to the Graham Field, a distance of 6 miles, and about 50,000 bbls. of steel storage. The consideration was $30,000.

The refinery has been closed down for three or four years. The new owners state they have not decided yet whether they will operate or dismantle the plant. The same interests have production in that area which could be made available for the refinery by pipe line if they so desire.

MOVING OFFICES

KANSAS CITY, Mo., Nov. 19.—The Kansas City Testing Laboratory Building, Seventh Street and Baltimore Avenue, Kansas City, is being remodeled to accommodate the general office force of the Gasoline Products Co., which will occupy the entire second floor of the new part of the building. Laboratories are being moved into the old building adjoining. A fire wall will separate the laboratories from the office wing.

OIL TALKS BY RADIO

KANSAS CITY, Mo., Nov. 19.—W. W. Harrington, manager of the Vacuum Oil Co. in Kansas City, is using the radio to broadcast petroleum's story to the public. A recent lecture, "If Your Motor Could Talk," told the story of scientific lubrication. The plan is to make these talks of value to motor car users. They are free from advertising matter, the idea being to sell oil in general, rather than "Vacuum" to the public.

CANADIAN GAS CUT

CHATHAM, Ont., Nov. 19.—Imperial Oil, Ltd., has announced further reductions in the wholesale and retail prices of gasoline in the Canadian West. The general reduction is 2 cents a gallon, making a retail price of 32 cents at Saskatoon, Sask., and 33 cents at Regina, Sask. At Edmonton the reduced price is 33 cents, plus 2 cents government gasoline tax.

What would it be worth to you if each day in your refinery, every barrel of your fuel oil were by some magic transformation, converted into 35/40 gravity crude?

The Dubbs Cracking Process will in effect do this, which no magician can

Universal Oil Products Company
Owners of the Dubbs Process
208 South La Salle Street Chicago

Uses and Limits of Charcoal Plants

Advantages and Disadvantages Described and Production Comparisons With Other Processes and Cost Summary Are Outlined

By G. G. Oberfell and R. C. Alden
Copyright by G. G. Oberfell and R. C. Alden.

PERTINENT FACTS EMPHASIZED IN THE ARTICLE

This paper on "The Uses and Limitations of Charcoal Process Plants" was read at the Fall Conference of the Association of Natural Gasoline Manufacturers at Fort Worth, Texas, last week. Among the points brought out by the authors are:

The supply of charcoal necessary to fill the demand is not limited. One year's supply of cocoanut shells alone would probably be sufficient to supply the demand for enough charcoal to produce more than 1,000,000 gallons of charcoal gasoline daily.

It is highly improbable that the charcoal process will ever be responsible for more than one-half of our natural gasoline production.

Charcoal process plants, it appears, are capable of producing approximately 50 per cent more gasoline than plants operating under other processes.

A charcoal process plant and oil absorption plant have about the same installation costs for gas containing about 1 gallon per 1,000 feet.

The installation cost decrease attendant to increased plant capacities, however, is not proportionately as great in charcoal process plants as that for the oil absorption process.

The use of solid absorbents, and in particular the use of highly activated charcoal, has been practiced for the recovery of gasoline from natural gas since the close of the World War. The ability of charcoal to absorb gasoline vapors from natural gas has been made familiar to practically every plant operator by the extensive use of the charcoal testing method.

C. L. Voress, general manager of the Gasoline Recovery Corp., has been associated with the work on the process since its incipiency, and has for the greater part of the time had direct charge of its development. Especial credit is due him and other officials and employes of the Gasoline Recovery Corp. for their faith and untiring efforts in the development of a method from laboratory scale experiments to a commercial process which today is represented by approximately a dozen of successful plants.

The general features of a charcoal plant do not differ materially from those of an oil absorption plant. Briefly in this application, natural gas is passed through containers holding activated cocoanut shell charcoal. After the charcoal has reached the desired saturation with gasoline vapors, the gas is turned from the vessel containing the saturated charcoal into another absorber, while steam is passed through the saturated charcoal. The water and gasoline vapors are liquified and separated.

The general scheme of operation consists in having three absorbers or three groups of absorbers. In the cycle of operation one of the absorbers is in the stage of absorption, one in the stage of distillation and one in the stage of cooling, the cooling of the charcoal being effected by the residue from the absorber, into which the untreated gas is entering. This cycle is repeated at generally one to two-hour intervals. This in a few words is the charcoal process. In view of what you have already heard or read concerning the principles involved in the design and operation of charcoal process plants it is not believed that a further discussion of the subject will be justified However, there seems to be quite a diversity of opinion regarding the uses and limitations of the process. In this connection the writers are indeed glad to have this opportunity of voicing their opinions before an assembly of men vitally interested in the development of the natural gasoline industry.

Source and Supply of Charcoal

The charcoal used for gasoline extraction purposes at present is made almost exclusively from cocoanut shells. The shells are first submitted to dry distillation in closed retorts. Part of the volatile matter is driven off by this means. The ordinary or inactive charcoal produced by this stage of the process is then subjected to steam treatment at about 850 degrees C. in a special furnace. This treatment removes organic material from the charcoal. The degree of activation depends upon the efficacy of this treatment. During the World War a testing method was developed for grading charcoals with respect to their absorption values. This testing method consisted in passing a mixture of chlorpicrin vapor and air through the charcoal under specified test condition and in determining the length of time, as expressed in minutes, that a given amount of charcoal would completely remove the chlorpicrin vapor, hence the expression "40-minute" or "50-minute" charcoal. Chlorpicrin was a poison gas used in warfare, and the degree of protection offered against this gas was considered a measure of the absorption value of the charcoal. At the close of the war carbon tetrachloride was proposed as a substitute for chlorpicrin, and the carbon tetrachloride method is sometimes used instead of the chlorpicrin test method.

One of the arguments against the probable success of the charcoal process was that the supply of charcoal in such event would be unable to fill the demand. Statistics indicate that such is not the case. One year's supply of cocoanut shells alone would probably be sufficient to supply the demand for enough charcoal to produce over 1,000,000 gallons of charcoal gasoline daily. This is equivalent to approximately 50 per cent of the production of natural gasoline within the States. It is highly improbable that the charcoal process will ever be responsible for more than one-half of our natural gasoline production.

The manufacturing costs of charcoal remain very high. Cocoanut shells have been quoted a $6 per ton. Approximately 12 per cent of the raw material is converted into charcoal suitable for recovery purposes. With activated charcoal selling at 50 cents per pound, this means that the manufacturing costs are such that approximately $50 worth of raw material is converted into $1,000 worth of the finished product. It would appear that manufacturing costs could be considerably reduced by improvements in the process of manufacturing, by the use of material of wider range in mesh in the gasoline industry, by disposal of the finest mesh charcoal in other industries, and by the possibilities for the extensive use of by-products obtained from the volatile constituents driven off by the dry distillation of the cocoanut shells. In this connection it has been stated that Professor Victor Lenher of the University of Wisconsin, has successfully activated charcoal by treating the inactive charcoal with selenium oxychloride at moderately low temperature. Ray concludes that selenium oxychloride does not produce charcoal of as good quality as that manufactured by high temperature, steam treatment.

Production Comparison

A consideration of factors affecting plant production makes it plainly evident that any data regarding direct comparisons between production of different extraction processes are subject to so many variables that it is well nigh impossible to have experimental conditions fixed so as to draw definite conclusions therefrom. In submitting these meager data regarding direct comparisons it is realized that the information is only applicable in a general way. It can be safely stated, however, that practically all the data available, as well as theoretical considerations, indicate a much higher extraction efficiency for a charcoal process plant than any other process employed to date.

Some of the data reported to the writers regarding direct comparisons between charcoal process plant production and oil absorption plant production follow:

A miniature charcoal process plant treating gas from the main line leading to an old absorption plant showed a yield of .203 G. P. M. of 82 degrees Be product without the use of naphtha blending. The oil absorption plant using 15 per cent naphtha produced a yield of 0.140 G. P. M. with a gravity of about 82 degrees Be for the blended product. The natural gasoline in the blend would have had a gravity above 90 degrees Be. Experimental data indicated that the .203 G. P. M. yield of the charcoal process represented a more stable product than the 0.140 G. P. M. yield of the oil absorption plant. The percentage increase in production of charcoal process over oil absorption process in such case would have been 45 per cent.

A small charcoal process plant was installed on the same gas line with an oil absorption plant. The oil absorption plant and charcoal process plant were operated on alternate days, or other alternate periods of time. The oil absorption plant produced 500 to 600 gallons of gasoline daily, whereas the charcoal process plant produced 800 to 900 gallons daily. The charcoal absorption gasoline was reported to be more stable than the oil absorption gasoline. The increase in production in this case would have been approximately 50 per cent.

A miniature charcoal plant was installed on casinghead gas at a compression plant. The compression plant used hot blending with naphtha producing a 70 per cent naphtha blend. The compression plant showed a yield of 1.80 G. P. M. The miniature charcoal process plant showed a yield of 2.68 G. P. M. of 84.5 degrees Be product. In addition the miniature charcoal process plant was able to extract 0.81 G. P. M. of 90 degrees Be gasoline from the residue gas of the compression plant. In this case the increase in production attributable to the charcoal process was 49 per cent.

One company has installed charcoal process plants on the residue gas from their oil absorption plants. It has been reported that 45 per cent increase in production has resulted since installing the charcoal plants.

One charcoal plant is treating gas from a locality in which oil absorption plants are extracting about 500 gallons of gasoline from each million feet of gas. The charcoal process plant produces in excess of 750 gallons of gasoline per million feet of gas. Tests on the gas indicate that gases to the various plants have about the same gasoline content. If such is the case the increase in yield attributable to the charcoal process would of gas at plants using other extraction

Summing up the data presented above it would appear that charcoal process plants are capable of producing approximately 50 per cent more gasoline than plants operating under other processes. The writers do not believe that on the average such an increase could be expected. It seems reasonable to assume, though, that for gases having a gasoline content less than 1.00 G. P. M. that a charcoal process plant will produce 25 per cent more gasoline than that produced at present by the average oil absorption plant. It is possible to so design and operate an oil absorption plant so as to obtain a production more nearly approaching that of charcoal process plant practice, but apparently the economical balance does not justify such an installation. It is also realized that the last step has not as yet been made in the ultimate improvement of the oil absorption process. In all fairness to the charcoal process it would appear that its chances for improvement are at least equal to those of the oil absorption process.

Charcoal Testing Method

Perhaps the most satisfactory way of judging the performance of the charcoal process is to compare its actual accomplishments based on the charcoal tests of the inlet gas with the actual accomplishment based on the inlet charcoal tests of gas at plants using other extraction methods. Table No. 1 presents figures which will permit such a comparison.

Comparison by testing methods can be justly criticised on the ground that any test result is subject to a large number of variables, and therefore the test result may not afford a good indication of the gasoline content of the gas. It is believed that the large number of comparisons which have been made between plant production and charcoal test results removes beyond all reasonable doubt the validity of comparisons between charcoal test results and plant production, providing due allowance is made for quality of product shipped. Scores of oil absorption and compression plants have been investigated and plant production compared with charcoal test results under variable conditions. Thousands of charcoal tests have been made in establishing these comparisons. The charcoal testing method has been subjected to a most rigid examination with the results

(Continued on Page 76)

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NEW NAVY IS WEAKER AT CHICAGO

Close to One Cent Spread in Struggle Between "Bulls" and "Bears." Kerosene and Burning Oils Bright Spot. Natural Gasoline Softer. Fuel Oil Weaker. Bright Stock Leads the List of Prices for Lubricants

By Ralph T. Baker

CHICAGO, Nov. 19.—New Navy came close to a 1-cent price spread in the Chicago district Saturday when a number of firms were quoting 6 cents while a majority of the larger refining companies were lifting their asking prices to 7 cents. The difference in the prices cannot fail to emphasize the chaotic condition of the New Navy market in this region. Some salesmen, influenced by recent crude cuts and declining tank wagon prices, have reduced their figure materially during recent days. Others, who look on the brighter side of the situation, feel they are right in holding out for higher prices than the average paid recently. The result has been productive of a variety of prices rarely witnessed.

There are two groups influencing market conditions. The "bears" are offering Navy at 6 cents in small amounts, which can scarcely be taken as the true bottom price at the present time. Nevertheless, the facts cannot be avoided and there is an appreciable following in this group of pessimists. Many marketers feel this sentiment is transitory.

On the other hand is a group of large refiners who have witnessed the lowering of gasoline stocks and apparently look for, or at least hope for, an advance. They were asking as high as 7 cents for New Navy during the last part of the week. Just what success will reward their "bullish" efforts remains to be seen.

One refiner declared 6-cent gasoline was being sold in small amounts only to the jobbers and that the price to the trade was 6½ cents. This latter price may be taken as the real bottom, with considerable gasoline passing at 6¾ cents also. The extremes above mentionel are indicative of the conflicting emotions guiding future developments. At present there are two distinct avenues for gasoline prices to take during the coming weeks. It is impossible to tell at the present time whether the "bears" will win out and 6-cent or possibly 5½-cent New Navy will become a reality, or whether the "bulls," by holding out for a higher figure, will have control of a sufficient supply to bring the price up to the plane which they have established.

It is current gossip that some refiners are determined to hold their gasoline in storage rather than dispose of it at present prices. Just how much support they can give their convictions remains to be seen.

Fair Movement But Weak

On the whole, the market for New Navy seems to be weaker. There has been a fair movement during the week, but the demand has slackened considerably during recent days. Naphthas are practically at a standstill regarding price and movement. Some of the higher grades of gasolines are still in transit and a number of inquiries are being received by refiners and marketers. On the whole, these higher grades, however, have participated in the chaotic condition as exemplified by New Navy, with wider spreads in prices being shown. Some marketers feel that the prices are near the bottom unless additional crude cuts are announced.

Kerosene and the burnings oils are the bright spots in an otherwise discouraging market. A heavy demand continued to move the 41-43 water white grade in large quantities. A recent export order of large proportions has contributed materially to the favorable showing made recently by this product. It continued to sell at an average price of 4 to 4½ cents. The 42-44 grade continued to bring 4½ cents as the top price.

Straw distillate continued to sell readily, with the ordinary untreated stuff bringing as low as 3 cents, while the product preferred for the home burner installations commanded a price close to 3¼ cents as the bottom. There was some letting up in the demand for gas oil reported by some concerns. Little change in price was noticed during the week, however.

Natural Gasoline Soft

Natural gasolines were softer with one purchase of Grade C reported at 5½ cents. Bottom of the market for this grade may be fixed at 5¾ cents, however. There is less demand for the other grades in this territory at the present time, with only isolated sales reported. Blends continued at former prices with little interest evidenced.

Fuel oil was slightly weaker, with a smaller demand shown. The average price during the week was 72½ cents, with some sales at 70 cents and a few at 75 cents. Some Smackover grade stuff was reported sold as low as 55 cents, with the bulk passing at an average price of 60 cents. Little interest was taken in the El Dorado fuel. Regardless of the dull week, a number of marketers feel the demand for fuel oil will strengthen soon. Inquiries are frequent and many large users in this territory who have been pursuing the hand-to-mouth policy in their purchases are expected to place large orders during the next few days.

In the lubricants, the demand for bright stock has caused it to lead the list of prices. Lubs generally passed a quiet week, with the non-viscous neutrals slightly weaker, while the heavier products held up fairly well. As a whole, lubricants have not been influenced materially by recent crude cuts. Wax of all grades continued strong.

REFINED OIL STOCKS DECREASED IN OCTOBER

Stocks of gasoline, kerosene and fuel and gas oils all decreased during the month of October, according to the summary of increases or decreases compiled by the American Petroleum Institute. Gasoline stocks decreased 604,443 bbls. east of the Rocky Mountains with an increase of 291,292 bbls. west of the Rocky Mountains, making a total decrease of 313,151 bbls. (13,152,342 gallons.) There was a decrease of 364,355 bbls. (15,302,910 gallons) in the kerosene stocks and a still larger decrease of 409,219 bbls. (17,187,198 gallons) in fuel and gas oil stocks.

The changes in crude and refined stocks as estimated for the month of October follow:

	Barrels of 42 Gallons Increase	Decrease
Domestic crude oil	725,825	
Foreign crude oil	255,825	
Oil for rerunning	40,002	
Gasoline		313,151
Kerosene		364,355
Gas and fuel oil		409,219
Lubricating	21,430	
Miscellaneous	32,918	
Total	1,086,999	1,086,725
Deduct	1,086,725	
Net increase	274	

Pipe line and tank farm gross domestic oil stocks east of the Rocky Mountains increased 6,894,000 bbls. in the month of October, according to returns from reports made by representative companies.

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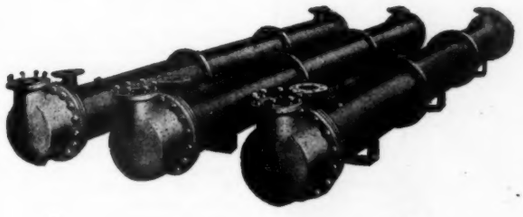

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GR 556

USES AND LIMITATIONS OF CHARCOAL PLANTS

(Continued from Page 72)

that test yields have been gradually increased. The comparisons therefore favor the oil absorption plants since some of the comparisons represent relation between the charcoal testing method prior to some of its improvements. However, the specifications for products shipped from the plants in several cases has favored the charcoal process plants.

The average plant yield-test yield ratio for extraction processes, other than the charcoal absorption process, was 0.99, while the plant yield-test yield ratio for the charcoal process, was 1.54. In other words, on the average, the charcoal process has exceeded the test on the inlet gas by 55 per cent more than other extraction processes.

No doubt the figure of 55 per cent is high. One would not be justified in expecting a charcoal process plant to yield 55 per cent more than that predicted by a charcoal test of a representative sample of the gas being treated. At least, one would not expect such an increase, unless most lenient shipping specifications were had for the plant's product. The high ratios, in case of the charcoal plants, are attributable to lenient shipping specifications which were probably responsible for an increase in sales of about 25 per cent more than would be obtained for ordinary shipping specifications. In this connection it might be stated that the charcoal plant designated by No. 15 in Table No. 1 shows a plant yield-test yield ratio of 1.92. The oil absorption plant designated by No. 6 in this table during the same period was showing a ratio of 1.03. Both these plants were carefully investigated by the writers. The oil absorption plant was shipping 50 per cent of its production under Grade "A" absorption gasoline specifications and the remaining 50 per cent was blended with about 25 to 30 per cent of New Navy gasoline. This blend was shipped to the same destination, and under exactly the same specifications as that obtaining for the charcoal process plant. This oil absorption plant is recognized as being above the average in gasoline extraction efficiency. The oil absorption sales could have been increased approximately 20 per cent if all the product had been shipped under the more lenient shipping specifications. In this comparison, the charcoal process plant exceeds by 50 per cent the expected production for the oil absorption plant under the most lenient shipping specifications possible within the I. C. C. regulations.

TABLE NO. 1

Comparative tests of charcoal process plants and other gasoline extraction processes, showing ratio between plant yield and charcoal test yield.

No.	Process	Yield by Charcoal Test	G.P.M. by Plant	Ratio (4)—(3)
1	Oil absorption	2.76	3.30	1.195
2	Oil absorption	2.10	2.28	1.085
3	Oil absorption	2.55	2.51	0.984
4	Oil absorption	1.69	2.01	1.190
5	Oil absorption	1.06	1.04	0.982
6	Oil absorption	1.23	1.27	1.032
7	Oil absorption	0.175	0.721	0.69
8	Oil absorption	0.516	0.381	0.74
9	Oil absorption	0.234	0.268	1.145
10	Compression	1.45	1.80	1.24
11	Compression	1.33	1.40	1.05
12	Compression	1.83	1.42	0.78
13	Compression	2 38	1.83	0.77
14	Charcoal	1.45	2.68	1.849
15	Charcoal	0.410	0.788	1.92
16	Charcoal	0.360	0.384	1.065
17	Charcoal	1.000	1.67	1.67
18	Charcoal	0.175	0.210	1.20
Average ratio for charcoal process plants				1.54
Average ratio for other extraction processes				.99

Installation Costs

The same factors affecting the costs encountered in the installation of an oil absorption plant also apply to the charcoal process plants. However, the weight that these factors have, in determining costs, differ greatly for the two processes. As is generally recognized, the pressure and volume of gas treated are of paramount importance in arriving at the costs of installing oil absorption plants. The amount of gasoline to be produced is the major item in the installation costs of charcoal process plants. Such being the case, it naturally follows, that, if the charcoal process has a place in the gasoline industry, the economical balance between cost and production would favor the charcoal process for lean gas, low pressure and small production.

Based on a 1,000-gallon production, for which one plant was designed, the installation cost was $25.75 per gallon. Based on actual production, charcoal process plants have been installed for costs averaging about $15 to $30 per gallon (1922-1923). This cost does not include gas gathering lines and compression machinery. Since the latter item represents an amount almost equal to the other costs, it appears that a charcoal process plant and an oil absorption plant would have about the same installation costs for gas containing about 1.0 G. P. M. at an absorption pressure of about 30 to 50 pounds gauge. Naturally, larger plants can be built for a lower price per gallon than smaller plants. The installation cost decrease is not proportionately as great for charcoal process plants as for oil absorption plants. The equipment and material used in a charcoal plant, as compared with those used in an absorption plant, do not favor as great a reduction in installation costs, attributable to increased plant capacities. In this connection, it might be stated that the cost of charcoal alone amounts to about $5 per gallon of plant design capacity.

Manufacturing Costs

Conditions favor, for the following items, far lower manufacturing costs for charcoal process plant than for an oil absorption plant of equal capacity. Superintendence and labor; maintenance and general supplies; testing, teaming, trucking and automobile expense, and general overhead expense. The reason for this is that the charcoal process plants have less moving parts, and because the duties required on the part of the operators are fewer and more easily mastered.

Exclusive of gas royalties and process royalty, the following estimates are presented for the manufacturing costs of charcoal process plants, installed and operated under the following assumed conditions:

Plant 1: Municipal gas treatment. Neither compression machinery nor gas gathering lines required for installation. Plant located on main gas line, near railroad and water supply. Installation cost $80,000. Plant production, 4,000 gallons daily.

Plant 2: Casinghead gas treatment. Compression machinery and field lines included in installation of plant. Plant located favorably as regards to gas and water supply and distance from a railroad. Installation cost, $150,000. Production, 4,000 gallons daily.

Plant 3: Installed on residue gas of large oil absorption plant. Installation cost, $70,000, includes only absorption, distillation and cooling elements. The remainder of equipment used in common with the oil absorption plant. Production, 4,000 gallons daily. It is assumed that fuel is free and that no extra labor is required for the operation of the charcoal plant.

For comparative purposes the estimated costs to manufacture gasoline at the average oil absorption plant in the Mid-Continent Field is also included in the table.

It is plainly evident that the charcoal process offers possibilities of profits that gasoline manufacturers can not much longer afford to ignore. A charcoal process plant installed on the residue gas of a very large oil absorption plant can be made to show phenomenally high profits. This is due to the low installation and manufacturing costs made possible by the existing oil absorption plant.

Table No. 3 was prepared with the intention of showing the amount of process royalty that could be paid and allow the natural gasoline manufacturer to make 50 per cent on his investment for plant No. 3, Table No. 2.

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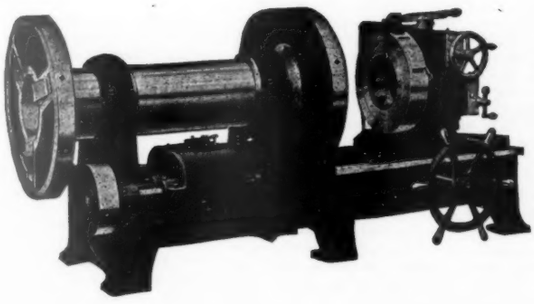

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TABLE NO. 2
Estimated Manufacturing Costs

*Items	Charcoal Process Plants—Cents per Gal. Plant 1	Plant 2	Plant 3	Oil Absorption Cents per Gal. Average Plant
Interest at 8%	0.45	0.83	0.39	0.80
Depreciation at 20%	1.11	2.08	0.97	1.80
Insurance and taxes	0.10	0.17	0.09	0.10
Superintendence and labor	0.56	0.84	0.00	0.98
Maintenance and general supplies	0.75	1.25	0.50	1.06
Sale of gasoline and tank car rentals	1.00	1.00	1.00	1.00
Testing, teaming, trucking and auto expense	0.20	0.30	0.10	0.25
General overhead and miscellaneous expense	0.15	0.25	0.10	0.35
Fuel and water expense	1.50	0.20	0.10	0.30
Totals	5.82	6.92	3.25	6.64

*Note that process and gas royalties are omitted.

TABLE NO. 3
Process Royalties Which, Under Most Favorable Circumstances, the Charcoal Process Is Able to Bear and Allow Manufacturers 50 per Cent Return Annually on an Investment
(Based on Plant No. 3, Table No. 2)

Selling Prices Cents per Gal.	Gas Royalty Cents per Gal. 25%	Total Manuf'g Costs Cents per Gal.	Process Royalty Remaining After Allowing Manufacturer 50 per Cent Return Annually on His Investment Cents per Gal.	Per Cent of Sale Price
8	2.0	7.29	0.71	9
10	2.5	7.79	2.21	22
12	3.0	8.29	3.71	31
14	3.5	8.79	5.21	37
16	4.0	9.29	6.71	42
18	4.5	9.79	8.21	46
20	5.0	10.29	9.71	49

Note: Interest on investment not included in cost.

TABLE NO. 4
Estimated Profits Accruing to Manufacturer Using Charcoal Process When Paying 10 per Cent Process Royalty
(Based on Plant No. 3, Table No. 2)

Selling Price Cents per Gal.	Gas Process Royalty Cents per Gal. (25%)	Process Royalty Cents per Gal. (10%)	Total Manufacturing Costs Cents per Gal.	Manufacturer's Profits Cents per Gal.	Per Cent Annually
6	1.5	0.6	4.96	1.04	21
8	2.0	0.8	5.66	2.34	48
10	2.5	1.0	6.36	3.64	75
12	3.0	1.2	7.06	4.94	102
14	3.5	1.4	7.76	6.24	128
16	4.0	1.6	8.46	7.54	156
18	4.5	1.8	9.16	8.84	182
20	5.0	2.0	9.86	10.14	208

Note: Interest on investment not included in cost.

In this estimate, a royalty of 25 per cent is allowed the seller of the gas. Table No. 4 shows the profit that would be obtained by the natural gasoline manufacturer when paying a process royalty of 10 per cent.

Uses and Limitations of the Charcoal Process

Advantages and Disadvantages

It has been only a few years since the charcoal process was generally looked upon with skepticism. It is now recognized by the majority of operators and technologists that the charcoal process is both a technical and an economic success since its applicability under particular conditions is a matter of accredited performance. As was the case of the oil absorption process during the earlier stage of development, a certain amount of prejudice will have to be overcome before the process receives the consideration due it, and is thereby enabled to be of greater usefulness to the natural gasoline plant operators. The charcoal process is by no means a solution for all gasoline extraction problems. Its uses and limitations are manifested by the following list of its advantages and disadvantages:

1. Cost of installation is based mainly on number of gallons of production and not on actual volume of gas handled, as in the case of oil absorption plants.

2. Charcoal plant yield is generally much higher than the test yield, thereby reducing average installation and operation costs and increasing gross income.

3. Charcoal plant efficiency is much greater than efficiency of other methods.

4. Charcoal process gasoline is better than gasoline produced by other processes per se and presents the possibility of preparing products for high-priced petroleum fractions.

5. The charcoal process plant has not the moving parts, nor the high pressures, nor the high temperatures that other extraction processes require. Replacement and maintenance would therefore not be high for a charcoal plant as for other plants.

6. A charcoal plant is practically portable. It can be easily moved from one part of a field to another. It seems to the writers to embody the principle of the portable plant for which operators have long sought. It also seems to the writers to present an ideal method of entering a new field, ideal because of its portability. It provides a means of holding and obtaining gas options, feeling out new fields and incidentally producing gasoline at a profit.

7. Simplicity of operation is another advantage the charcoal process has. There is practically no chance of producing either high end point or off-color gasoline. The operators' duties are simple, few and easily mastered.

8. Cleanliness is a minor advantage.

9. The further elimination of fire and explosion hazards is another advantage of the charcoal process. There is not the pressure hazard encountered in the compression process nor is there the fire hazard encountered in oil absorption plants.

10. The slight amount of coil cooling water required in the charcoal process is a decided advantage. The greater part of the coil water in a charcoal plant is actually used to condense gasoline vapors. There is no oil to cool, there is no gas to cool, unless the residue gas is returned to city mains or to lease lines. The water requirements of a charcoal gasoline plant are much less than they would be for an oil plant of the same size.

11. Fuel consumption favors the charcoal process plants wherever its installation is justified by other factors.

12. Pressure considerations do not within practical limits affect operating conditions at a charcoal plant. Therefore, a charcoal plant could operate longer on well pressure gas than could other processes, in which definite pressures must be maintained.

13. The high cost of charcoal is a disadvantage of the process. This item is the greatest single element in the cost of plants. It would seem probable that this high cost could and should be reduced.

14. Process royalty is a disadvantage with which the success of any process is handicapped. Operators are loathe to receive any cost item, regardless of its magnitude, when it is clothed in the raiment of process royalty.

15. Another disadvantage at present inherent in the process is that installation cost decrease attendant to increased plant capacities are not proportionately as great as that for the oil absorption process.

Possible Applications of the Charcoal Process

As the charcoal process stands today there are five possible applications. These are: (1) municipal gas, (2) lean gas which can be economically contracted for, (3) combination processes in future installations, (4) portable plant for exploiting new fields, (5) residue gases

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from existing plants. The possibilities in these applications will be discussed in order.

Municipal Gas

The application of the charcoal process to municipal gas has proven its advantages in its successful and profitable operation at several places. This is a field in which no other process can compete with the charcoal process. There are difficulties in this application occasioned entirely by fluctuations so that wherever it would be at all profitable to treat city gas, the charcoal process or a combination process would be the best method.

Lean Gas

This is another field in which the charcoal process has advantages over the other methods of gasoline extraction. A charcoal plant will function regardless of pressure so that with a charcoal plant, well pressure can be taken advantage of for a longer period. The efficiency of the charcoal process is another advantage it has over other methods. It seems to be true that the leaner the gas treated by oil absorption, the lower the efficiency of gasoline extraction. The comparatively small volume of cooling coal water required is another factor in favor of this application of the charcoal process. In some localities the available cooling water will not suffice for the requirements of an efficient oil absorption plant. The fact that the fundamental elements of a charcoal plant are designed according to gallons of production and not for the volume of gas handled is another one recommending the application of the charcoal process to lean gas.

Combination Process

It is in this field that the charcoal process offers the greatest advantages for the future. It is possible to build a fairly efficient oil absorption plant very cheaply. A combination of an underdesigned oil absorption plant with a charcoal plant would be a very economical installation for treating large volumes of gas. Such an installation has much to recommend it besides the major consideration of low initial cost. A better grade of gasoline would be produced, less cooling water would be required, there would be less cost of upkeep and maintenance, and it would probably attain a higher efficiency of gasoline extraction.

Portable Plant for New Fields

The possibilities of the charcoal process in this direction are obvious at a glance. The heaviest element in a charcoal plant proper is the boiler. It is simple oil field engineering to transport a boiler. The absorbers, miscellaneous tanks, coils and lines are few and small.

Residue Gases From Existing Plants

The application of the charcoal process to residue gases of existing plants has been proven by its successful application in several instances. If an experienced gasoline operator sees advantages in this application of the charcoal process in Pennsylvania, where cooling water is abundant, it is reasonable that operators in the Mid-Continent and Western Fields could find advantages in its use.

In this connection, it might be stated that it has been found that charcoal at plants treating residue gas from oil plants has been known to gradually lose its absorption power, due to clogging of the capillaries of the charcoal by oil. This experience has not been encountered at other charcoal process paints. Whether the oil is carried over mechanically, as a mist, or whether it is carried over as a true vapor, has not to the writers' knowledge been definitely proven This operating difficulty has not proven to be a serious one. The charcoal is readily cleansed of the absorbed oil by means of superheated steam whenever the occasion demands. If the oil is carried over mechanically, the difficulty ought to be readily overcome by means of gas and oil separators, the design of which ought not to be a serious problem. If carried over as a true vapor, then a small charge of charcoal of the main absorbers should suffice to remove large quantities of oil from the gas. It has been suggested that the oil could be removed by washing the charcoal with gasoline, and then removing the gasoline by distillation.

To the writers' knowledge, only one operator has experienced trouble with oil in charcoal. As a proof that this operator considered the disadvantage a minor one, is evidenced by the fact that two more charcoal plants were designed to treat residue gas from oil plants after encountering this problem.

Several large operators are losing opportunities of profits ranging from 75 to 150 per cent annually that could be made by installing charcoal process plants on the residue gas of their oil absorption plants. It is estimated by the writers that there is being wasted annually in this country more than 75,000,000 gallons of gasoline which is lost in the residue gas of existing gasoline plants. It is believed that economy would justify installation of charcoal plants to remove 70 per cent of this otherwise wasted gasoline. At 14 cents per gallon, the value of this gasoline is in excess of $10,000,000. This gasoline could be removed by charcoal process plants by an expenditure of about $4,000,000. In Stephens County, Texas, alone, where the writers have had opportunity to study conditions, it is estimated that 9,000,000 gallons of gasoline are lost annually in the residue gas of existing plants. Charcoal process plants to extract 6,000,000 gallons of this lost gasoline would undoubtedly prove a financial success. When one considers that one county alone in Texas is unjustifiably wasting annually almost $1,000,000 worth of a product useful as motor fuel, it would appear that the charcoal process ought to be given serious consideration by the natural gasoline manufacturers.

There are quite a few plants in the Mid-Continent Field that lose more than 4,000 gallons of gasoline daily by low extraction in hot summer weather. It is therefore apparent that quite a few of our natural gasoline manufacturers are doing themselves an injustice by failing to grasp the advantages afforded by the charcoal process in this particular field.

OIL REFINERIES TRANSFER

A. B. Westervelt, vice president of the American Trust Co. and chairman of the Island Oil Corporation Bondholders' Committee, at a joint meeting of interested parties, delivered the full deed of conveyance for the New Orleans and Palo Blanco refineries and the transfer of the $12,000,000 claim to the Gulf States Oil Corp. and its refining subsidiary. Plans have been made for starting operations of the Gulf States Oil & Refining Co. plant at New Orleans on a basis of 10,000 barrels a day, the crude oil to be furnished by the Middle States Oil Co., the Southern States Oil Co. and the Western States Oil Co. from the southern Arkansas fields.

DERBY PLANT OPERATING

WICHITA, Kans., Nov. 17.—The Derby Oil & Refining Co. of this city has resumed operating its refinery located here The plant was shut down several weeks ago, officials of the company stating at that time that it was impossible to operate at a profit based on prevailing prices for crude and refined products. The action of the major purchasing companies in reducing crude prices on Thursday was responsible for the resumption of operations.

CASPER GASOLINE SHIPMENT

CASPER, Wyo., Nov. 16.—The Standard Oil Co. of Indiana shipped 780 tank cars of gasoline for export from here during the month of October. The 7,500,000 gallons were shipped in 13 trainloads of 60 cars each. The gasoline reaches the export trade via Baton Rouge, La.

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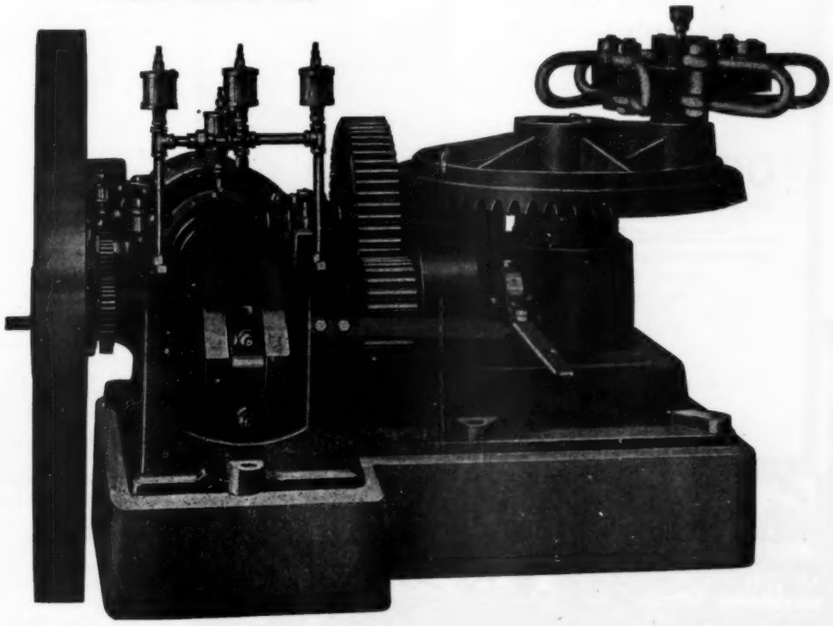

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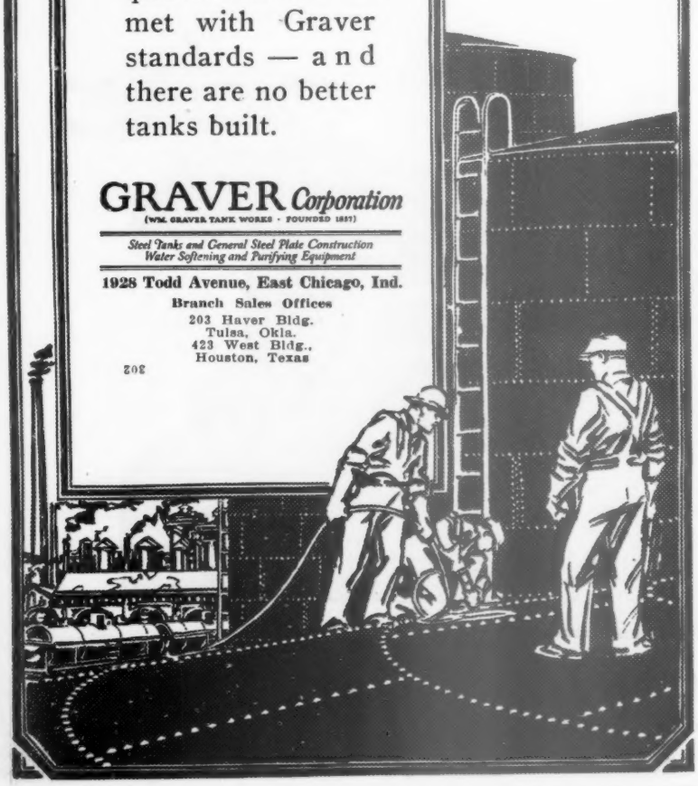

HOUSE HEATING OIL TOPIC AT MEETING

(Continued from Page 70)

to pass upon and label the good burners, others thought that of the great number of burners now on the market, the good ones would eventually emerge under the law of the "survival of the fittest."

It was pointed out that many users of impractical burners beseiged the oil companies with complaints regarding the oil being used. This was given as an example of the necessity of the suppliers of furnace oil co-operating in the development of the right type of burner.

It is well known that nearly all the large oil marketing companies are working to develop oil-burning equipment for homes which they can market themselves in connection with the sale of furnace oil. The advantage of this system lies in the fact that oil concerns will then be able to serve their customers not only as to the fuel, but the apparatus itself, and will know where to lay the blame if the apparatus does not work, being responsible for both the equipment and fuel. There would be no argument, as at present, between the maker of the burner and the company supplying the petroleum.

Although the companies now engaged in an attempt to perfect oil-burning equipment are trying to make apparatus which will sell at a low cost—between $50 and $200, for example — there is some question whether the matter of price will be uppermost in the minds of prospective purchasers. Some experts claim that the latter would be prepared to pay any price in order to get the burner, on the ground that once installed, convenience and efficiency would offset a high initial expenditure.

As against these are the oil men who believe that an old burner is like anything else—the initial cost will partly govern the extent of its use. A low-priced burner which would give the required service, they believe, would come into widespread use in a very short time. This is probably the goal which is being striven for by the oil concerns now developing burners.

Oil Companies Arbiters

From experience it seems that the prospective users of oil-burning equipment for homes naturally appeal to the oil companies, not only to assure themselves of an adequate supply of oil in case they decide to install equipment, but also to obtain reliable opinion regarding the make of burner which is most efficient. This naturally places a burden on the oil companies, who do not want to do injustice to any of the oil burner manufacturers but recognize that if the inefficient equipment is installed the first time, a prospective user may be lost indefinitely. This, again, emphasizes the value of oil companies having their own burners.

Although different in many respects, the present situation is likened by some oil men to the time when the Standard Oil Co. of New York introduced the kerosene lamp in the Orient. This was a plain case where an oil company created a market for a product by perfecting and introducing the equipment to use it. The oil industry is now, apparently, up against a problem somewhat similar, and many oil men believe it will be solved the same way. As one expressed it: "The oil industry has not done anything for itself since the kerosene lamp was introduced into China, and it is about time it woke up and did something for itself now."

One difference in the situation now is, of course, that there are many outside of the industry that are making equipment to burn oil in homes, in addition to what the industry itself may be doing in this line. Some of these have been manufacturing practical oil burners for a number of years, and have the confidence not only of the public but of the oil companies. Most of the burners made by them, however, are high priced, so that they cannot be used by the average small house owner.

Aside from the many intricate problems it embraces, the field for supplying furnace oil for home oil burners opens up an unlimited outlet for a new product of crude. One man estimates that there are 25,000,000 homes in the United States that could use oil if the right burners were available. This would provide an outlet for half a billion barrels of furnace oil annually.

With this potential demand staring the petroleum industry in the face, talk of overproduction seems ridiculous. However, it will take years for oil burners to attain a distribution covering, say, 5,000,000 homes, but this would require 100,000,000 barrels annually, which would take up all the slack of our greatest overproduction period to date.

Oil burning is an immense field, but, according to the most conservative opinion, it should be developed gradually—not only with a view to obtaining the correct burners, but also with an eye on the supply of oil, so that those who install burners can be assured of fuel at reasonable cost. If the practice of oil burning in homes should become widespread, and then the supply of oil should get low and the price rise, the oil industry would become in disfavor, regardless of the merits of the case, just as when gasoline was high, and just as the coal industry is in disfavor at the present time. It would provide political capital for the agitators who are always attempting to "ride" the petroleum industry.

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended November 10, totaled 1,306,000 barrels, a daily average of 186,571 barrels, against 584,000 barrels, a daily average of 83,428 barrels for the week ended November 3.

California Oil Receipts at Atlantic and Gulf Coast Ports
(Barrels of 42 Gallons)

	Wk. End. Nov. 10	Wk. End. Nov. 3
At Atlantic Coast Ports:		
Baltimore	.....	148,000
New York	950,000	*83,000
Philadelphia	95,000	73,000
Others	65 000	66,000
Total	1,110,000	370,000
Daily average	158,571	52,857
At Gulf Coast Ports:		
New Orleans and Baton Rouge	196,000	214,000
Daily average	28,000	30,571
Total Atlantic and Gulf Coast Ports	1,306,000	584,000
Daily average	186,571	83,428

*Revised.

According to figures collected by the American Petroleum Institute, imports of petroleum, crude and refined oils, at the principal ports for the week ended November 10, totaled 1,835,000 barrels, a daily average of 262,143 barrels, compared with 1,343,000 barrels, a daily average of 191,857 barrels for the week ended November 3.

Imports of Petroleum at U. S. Ports
(Barrels of 42 Gallons)

	Wk. End. Nov. 10	Wk. End. Nov. 3
At Atlantic Coast Ports:		
Baltimore	70,000	.....
Boston	140,000	60,000
New York	534 000	315,000
Philadelphia	115,000	111,000
Others	200,000	*111,000
Total	1,059,000	597,000
Daily average	151,286	85,286
At Gulf Coast Ports:		
Galveston district	329,000	287,000
New Orleans and Baton Rouge	249,000	315,000
Port Arthur and Sabine district	102,000	144,000
Tampa	96,000	.....
Total	776,000	746,000
Daily average	110,857	106,571
At all U. S. Ports:		
Total	1,835,000	1,343,000
Daily average	262,143	191,857

*Revised.

OPPOSE VILLAGE TAX

KANSAS CITY, Mo., Nov. 16.—Merchants of Independence, Mo., have joined with the motoring citizenry to oppose a planned village gasoline tax. The merchants complain that such a tax would drive away trade.

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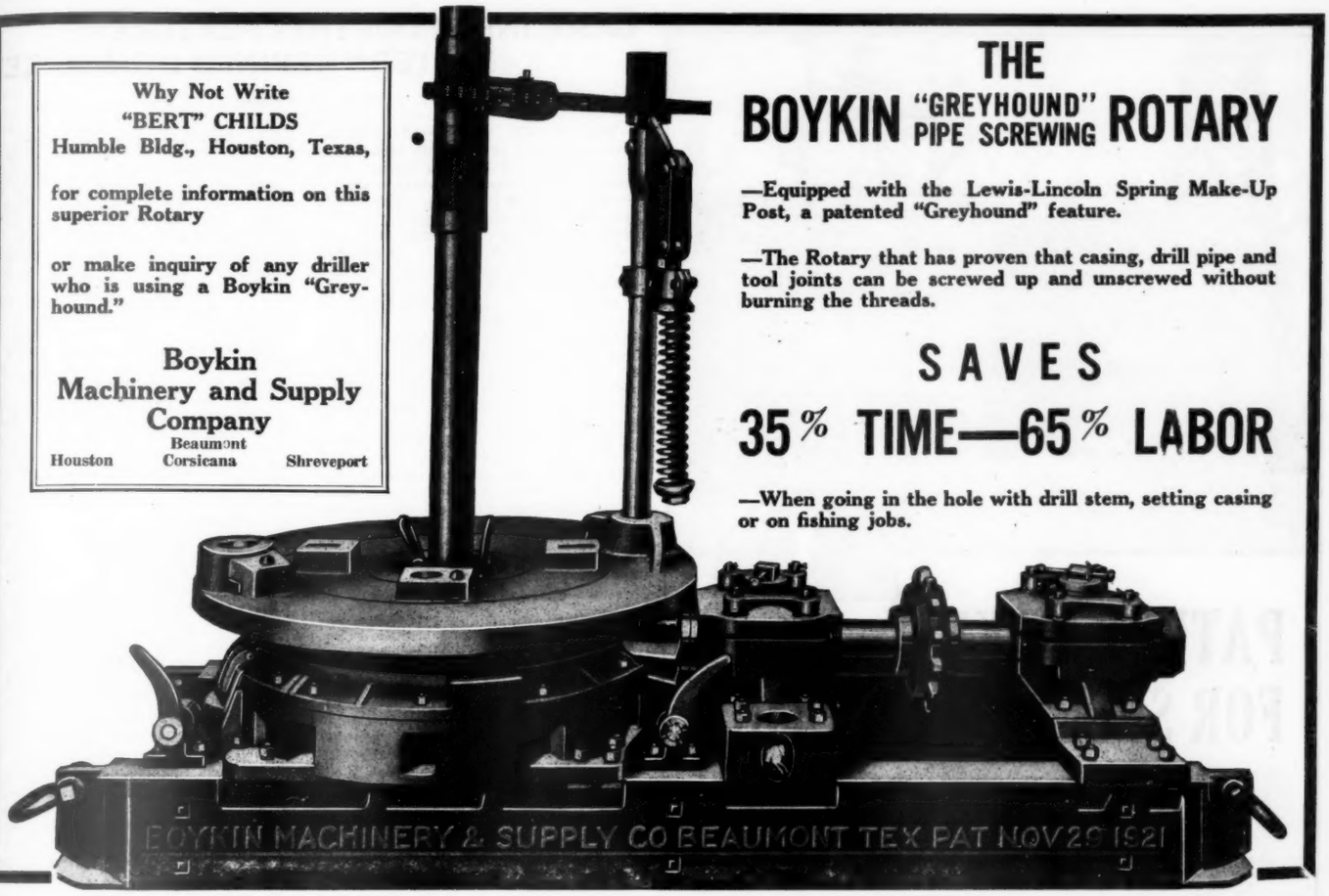

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GASOLINE REDUCTION FEATURES EASTERN REFINED OIL MARKET

By N. O. Fanning

NEW YORK, Nov. 19.—Further reduction of 1 cent per gallon in tank wagon price of gasoline throughout Atlantic Seaboard territory was the feature of the refined oil markets last week. This brings the tank wagon market generally to 15½ cents, although 1 or 2 cents lower prevails in many smaller cities. Gasoline is now selling for only one-half cent per gallon more than kerosene.

Whether prices have reached the bottom or not is difficult to say. This depends largely on the abundance of offerings from interior points. The analysis of the situation made by the Standard Oil Co. of New Jersey and published widely indicates that by next spring, and almost surely by next summer, the entire oil situation will have changed with relation to the balance between demand and supply and that there will not be an oversupply of gasoline. This should encourage many refiners who can do so to hold their production over as long as possible, rather than to throw their output on the market at the present time.

Gasoline Stocks Decline

The last two monthly reports of the Bureau of Mines shows a healthy decline in stocks of gasoline. Although production is still fairly high, the next month or two should show a considerable drop in output. The biggest oil concerns are now concentrating on the production of heavy products, particularly kerosene and the higher grades of fuel oil. This means the running of much high grade oil with a consequent big output of gasoline, but the increase in Panuco oil will make much more of this available, from which a large percentage of fuel oil (probably 90 per cent if necessary) can be obtained without adding much to the gasoline supply.

The gain in Panuco oil output has been referred to several times in these columns as a big factor in the betterment of the oil situation in general. The flood of California oil was followed by large shipments of this crude to the Atlantic Seaboard, but much of this crude, when run, yielded so much gasoline that the stocks of the latter product increased beyond all requirements. From a refining viewpoint, the Panuco crude is just the crude to balance the big output of light oils in the United States.

In this connection the renewal of Standard Oil of New Jersey's contract with Mexican Seaboard for the delivery of crude from the Panuco or Cacalilao fields of Mexico is of particular significance. This contract calls for more than 30,000,000 barrels to be delivered at the rate of 30,000 barrels daily. This crude is being obtained at a ridiculously low price—below 50 cents per barrel, f. o. b. Tampico. It can be delivered at New York for less than $1, after allowing for both taxes and freight. Bunker fuel oil sells at New York for $1.45 per barrel, and furnace oil for 10 cents per gallon, or at the rate of $4.10 per barrel. Marketing costs must be included under expenses in figuring the profits on this contract, however. They vary according to place of delivery.

Lubricating Oil Firm

The lubricating oil market provides the brightest spot in the immediate oil situation. The demand for various grades of this product has been improving right along, and all indications point to slightly higher quotations. Competition in this field is not as keen as in others, although strong competition exists. Vacuum Oil Co.'s declaration of an extra dividend indicates the favorable nature of the lubricating oil situation this year. On the other hand, the supply of the highest grades of Pennsylvania oil is smaller, which would make for higher prices. It is difficult to understand why Pennsylvania grade crude should decline in view of the lubricating oil situation.

Export Market Weak

Standard Oil Co. of New Jersey reduced the export price of all grades of naphtha one-half cent per gallon. Export naphtha and motor gasoline are touching the lowest prices. This is due to the fact that with summer over, stocks in Europe and the Far East are larger than ever, for exporters have been flooding these markets during the past year from the Atlantic Seaboard, Gulf Coast and Pacific Coast. All indications point to a slump in the export trade this winter, particularly as to gasoline. The unfavorable political situation in Europe may or may not affect the immediate industrial situation. No doubt many nations which are unsettled politically are in a much stronger industrial position than is generally realized. Europe has almost always recognized the need for hard work, but this has not served to curb political activity to any extent.

Outstanding factors bearing on the future of the export oil market are the possibilty of a consolidation of the Dutch-Shell combine and Anglo-Persian Oil Co., and the visit of Hugo Stinnes, Jr., to the United States. The former would strengthen the Dutch-Shell organization immeasurably by giving it Persia's production, Anglo-Persian's large fleet of oil tankers, its good will with the British public and its refining interests, besides large properties in India. Thus, the combination would offer the stiffest competition to American exports than any so far experienced.

Apparently Hugo Stinnes, the German industrialist, is throwing his hat into the international oil ring, as his son, Hugo Stinnes, Jr., is touring the American oil fields with H. F. Sinclair, probably with a view of securing production for his concern, the Ariengesselschaft fur Petroleum-Industrie.

The progress that the Dutch-Shell organization has made in securing production and properties in this country augurs well for any other foreign company which has large financial resources behind it.

Oil Receipts Fall Off

There was a considerable decline in receipts of crude and refined oil at Atlantic Seaboard ports during the last week, the daily average water receipts amounting to 362,000 barrels, against 484,000 barrels the week before, a decline of 122,000 barrels in the daily rate. Receipts at New York dropped from a high record of 344,000 barrels daily during the week ended November 9, to 109,000 barrels during the week ended November 16. Philadelphia passed New York for the first time, having receipts of 124,000 barrels daily to its credit during the latter week.

The following table shows estimated daily average receipts of crude and refined oil by water at the principal Atlantic Coast ports for the last two weeks, and for the months of October and September (in barrels):

	Week Ended		Month	
	Nov. 16	Nov. 9	Oct.	Sept.
New York	109,000	344,000	236,000	193,000
Philadelphia	124,000	76,000	109,000	76,000
Baltimore	40,000	16,000	41,000	59,000
Boston	52,000	21,000	26,000	23,000
Fall River	.....	.....	18,000	16,000
Providence	11,000	11,000	17,000	21,000
Norfolk	.....	.....	9,000	5,000
Charleston	11,000	.....	11,000	2,000
Miscellaneous	15,000	16,000	31,000	23,000
Total daily average	362,000	484,000	498,000	420,000

Mexican crude oil prices remain unchanged.

WYOMING FIELDS

(Continued from Page 36)

district. The well is being drilled on down now and the showing of oil is cased off.

The deep test of the Producers & Refiners at Simpson Ridge Dome in Carbon County is drilling at 3,475 feet and the shallow well there is down to 600 feet and has a lost string of tools in the hole. The deep well was started for a deep test of the structure and then found a commercial production about 600 feet deep. The shallow well is making a test of this shallow production area.

The fourth well of the Carter Oil Co. and the Consolidated Royalty Oil Co. on the Billy Creek Dome in Johnson County, is down to the top of the sand and changing from rotary to cable tools to drill in, the depth is 3,460 feet and another gas well is expected.

The recent strike of the Utah Oil & Refining Co. about 30 miles east of Thermopolis on the Black Mountain Dome, Warm Springs County, is still shut down waiting on a new cable to reach the rig.

The Ute Petroleum Co. and the Royalty & Producers have taken over a royalty interest amounting to 2½ per cent on the SE¼ of Section 36-10-69 near Wellington, Colo., and about a quarter of a mile from the big gas well of the Union Oil Co. there. This structure was first surveyed by Max W. Ball, president of the Ute Petroleum, who was chief geologist and manager of the Roxana interests in this region for some years.

The Hatfield Oil Co. drilling on the Eight Mile Lake Dome in Carbon County, southern Wyoming, and in the Lost Soldier district, struck one of the Frontier sands about 4,000 feet and found a heavy gas pressure in the sand estimated at 25,000,000 feet. This strike probably means an extensive gas field at Eight Mile Lake within easy distance of Rawlins.

Runs for the Past Week

Salt Creek	130,000
Teapot	4,750
Big Muddy	3,050
Lance Creek	480
Pilot Butte	80
Lander	325
Lost Soldier	4,835
Rock River	3,400
Grass Creek	3,035
Hamilton Dome	530
Elk Basin	1,690
Notches	95
Greybull	145
Osage	675
Ferris	100
Poison Spider	610
Cat Creek	4,985
Sunburst	965
Miscellaneous	650
Total	160,400

Teapot 700 Bbl. Well

Teapot jumped into the limelight the past week with a completion by the Mammoth Oil Co. that started off at over 700 bbls. daily. This new well is on Section 28-39-78 in the north end of the Teapot on the saddle between Teapot and Salt Creek.

This brings the Teapot daily production above the 5,000-bbl. mark, the first time since the big shale gusher dropped to a small output. This oil will be stored in the Clayton tank farm awaiting the completion of the trunk line to Kansas City, which is under construction. The Sinclair Pipe Line Co. is laying this trunk line and it was expected the work would have been completed by now, but the irrigation ditches of western Nebraska presented a problem during the summer, so the engineers decided to put it off until fall. The ditches are now dry and the trenching for the pipe line can be carried on.

Showing Near Glendo

A showing of oil near Glendo, Wyo., on the east side of the State, has awakened some interest. This strike was made by a local company drilling a deep well near Glendo and the sand showing the oil was found about 350 feet. The oil is a good quality crude, but comes from the well as an emulsion and there is some doubt expressed as to there being sufficient quality to warrant commercial exploration. However, the Nebraska Oil Co., which is the name of the local concern, will make several tests to determine the extent of the strike. The present well is to be a deep test, and this oil show was found in th 10-inch hole.

An effort is to be made to place a plant in the Lance Creek Field in Niobrara County that will endeavor to utilize the natural gas resources of the field to the greatest extent possible. It is proposed by the promoters of this plant, which is now being received at Lusk, the rail point of the field, to extract the gasoline content of the gas, then use the waste gas for the manufacture of carbon black and at the same time make steam with the heat generated and drive electric generators with this power and the electric energy so made will be utilized for domestic uses in the surrounding cities and towns.

The plan is not wholly new, for as early as 1907 electric generator installations were contemplated in the eastern gas regions that were to develop electrical power for the use of the larger cities of the Atlantic seaboard.

Lance Creek Field has had several wells that started off with a gas production that rivaled any gas well in this region, but like the oil production there, the wells dropped off until the production was nil. There is some gas production at present and the promoters for the new scheme have arranged for this to run their plant with.

The well of the Alaska Development Co., reported last week as a large gas well which was also spouting water and out of control, is slowly being drowned out by the water. This well is located on Pine Mountain Dome in Natrona County, and because it is located on the crest of the mountain, it can be seen for many miles spouting water high above the derrick.

The Producers & Refiners has a showing on the Bell Springs Dome, southeast of the Lost Soldier Field, in Carbon County, that may make a new operation. The well was shut down at 1,910 feet waiting on a string of casing when the hole started to fill with oil, and it now appears as though the well would make a commercial producer from the Frontier formation.

Prospective New Fields

In the new districts being looked to for new fields next year if the market advances, the country along the Idaho-Wyoming line and country northeast of Salt Creek are mentioned more than any other region. In the territory west of the Great Divide, and especially in the southwest part of Wyoming, the terrific upheavals that took place when the mountain chains were made, has eliminated much of the country at the start. At some points it is possible to find stratum on top of high ridges or mountains which are usually down next to the Aezoic rocks, as the Mississippi lime, while down in the valley may be found Tertiary deposits above the Cretaceous.

In the country north and east of Salt Creek, the surface of the Cretaceous is hidden under an overlay of Tertiary that may cover several areas of petroleum even larger than Salt Creek itself.

Montana

The Shelby Oil & Gas Co. drilled in a good producer, Section 23-33-1, in a stray sand found at 1,268 feet, and the well is considered good for 25 bbls. This sand is shallower than the Ellis sand, which was expected to hold production at this point.

On Section 29-35-1, the Sweeny Oil Co. drilled in a producer in the Ellis sand, thought good for 100 bbls., at 1,495 feet and found 20 feet of pay.

On Section 9-34-2, the Crane and Sunburst joint well found the Ellis sand at 1,485 feet and will make a producer of about 25 bbls. daily. All three wells are in the Sunburst Field in Toole County.

Two wells are drilling in the Cat Creek Field that should have the sand in a few days, but on the whole the Montana Field work is slowing up for the winter and the reports are routine from that State.

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Dew-Point and Volatility of Gasoline

This Dew-Point is Best Indication of Effective Volatility and Index May be Made up for Any Gasoline.

By W. A. Gruse
Mellon Institute of Industrial Research, Pittsburgh, Pa.

The importance of the dew-point of a gasoline as an expression of its effective volatility was first pointed out by Wilson and Barnard (J. Ind. Eng. Chem., 13, 906 [1921]); J. Soc. Automotive Eng., 12, 287 [1923]). The dew-point is the lowest temperature at which a gasoline is completely vaporized when in contact with a given amount of air. For the ordinary motor the mixture proportions by weight vary from 12 of air to 1 of gasoline for maximum power, to 15 of air to 1 of gasoline for maximum efficiency. In order to vaporize a gasoline completely for use in a motor, the mixture of air and gasoline must be heated to the dew-point of that particular mixture (the time element must be considered in a motor problem); heating beyond this point is undesirable because it involves a loss in volumetric efficiency.

It is now customary to estimate the volatility of a gasoline by an inspection of the distillation curve. The expression of volatility by a curve is not as definite, however, as by a single point, and the dew-point temperature, which evaluates both the light and heavy ends of the fuel, serves admirably for this purpose.

The dew-point may be measured by the indirect method of Wilson and Barnard (J. Ind. Eng. Chem., 13, 906 [1921]) or directly by the method devised by the author (J. Ind. Eng. Chem., 15 [1923]), in which a mixture of air and vaporized gasoline, whose composition is known, is blown against a metallic mirror. The mirror is cooled internally until a dew of gasoline is observed on its surface, and the temperature of the mirror at this point is noted as the dew-point of that particular mixture. It should be noted that the indirect method of Wilson and Barnard yields results which are lower than those measured directly, so that a constant of 40 degrees F. should be added to measurements made in this way in order to obtain results which agree with the figures obtained directly. The correctness of the direct determinations has been confirmed by work at the Bureau of Standards, using another method.

Range of Dew-Point Figures

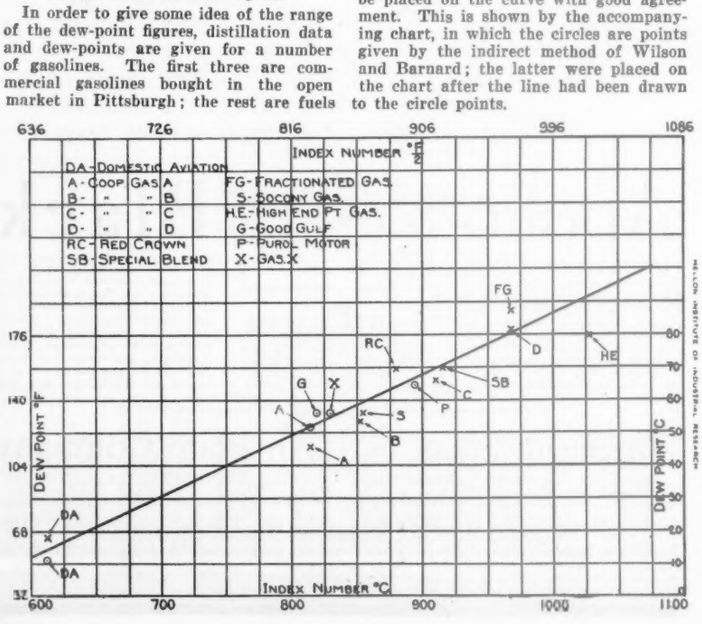
In order to give some idea of the range of the dew-point figures, distillation data and dew-points are given for a number of gasolines. The first three are commercial gasolines bought in the open market in Pittsburgh; the rest are fuels used in the recent cooperative tests conducted at the Bureau of Standards.

Fuel—	Init.	10%	20%	50%	70%	80%	90%	End	Dew Point 12-1	Dew Point 15-1
Purol Motor	107	165	206	282	325	351	387	434	161°	149°
Gasol. X	114	174	204	261	297	320	356	414	147°	133°
Good Gulf	107	151	176	252	295	327	365	426	147°	133°
Coop. Gas A	120	181	201	250	283	301	341	404	129°	124°
Coop. Gas D	130	192	220	282	339	381	425	472	above	167°
Dom. Aviation	137	160	171	199	219	232	252	293	63°	52°

Dew-Point and 85 per Cent Point

The simplest dew-point determination is difficult compared with a distillation test, and Wilson and Barnard noted an empirical linear relation between the dew-point of any gasoline and the 85 per cent point on the distillation curve, by which the approximate dew-point could be determined from the 85 per cent point. This relationship holds fairly well for gasolines whose distillation curves have the same shape, but does not fit cases in which the composition of the fuels is markedly different. Examples are shown in Wilson and Barnard's data in which gasolines with the same 85 per cent point to within 2 degrees F. differ in dew-point by 32 degrees F.; or in which gasolines with the same dew-point have 85 per cent points 30 degrees apart.

In the November 19 issue of Chemical and Metallurgical Engineering, the author has outlined an attempt to substitute a better relationship than that using the 85 per cent point. It was felt that certain regions on the distillation curve should be weighted, especially the first and last portions, since they are related to the starting, accelerating and oil-diluting tendencies of the fuel. The author's work on dew-point determinations had shown that the end-point has a large influence on the effective volatility so this also must be taken into account. By cut-and-dry methods it was found that an index number could be made by adding together the figures for the 10 per cent, 20 per cent, 50 per cent, 70 per cent, 90 per cent and end-points and dividing by two for convenience, which bare a direct linear relation to the dew-points of all the gasolines worked with, and that when this relationship was plotted for one set of fuels the points for another set of fuels could be placed on the curve with good agreement. This is shown by the accompanying chart, in which the circles are points given by the indirect method of Wilson and Barnard; the latter were placed on the chart after the line had been drawn to the circle points.



The agreement is seen to be fairly good; it is somewhat better than the relationship shown by the 85 per cent point, especially for fuels of different composition. The volatility index made up in this way may be used to determine approximate dew-points, or may be determined from dew-points by the use of this chart. It is believed that the index may be of service as an approximate expression of the volatility of motor fuels, of their general performance in a motor, and perhaps of the extent to which they might be expected to dilute crank case lubricating oil.

As examples of the size of the index number, its values, together with the dew-points, are tabulated for the four cooperative fuel research gasolines (J. Soc. Automotive Eng., 13 3 [1923]) and for several commercial gasolines.

Fuel—	Index No. ° F.	Dew Point Direct	Dew Point 15 to 1 Indirect+ Const.
Coop. Gasoline—			
A	819	123°	115°
B	864		129°
C	916		151°
D	966	167°	180°
Red Crown	885		158°
Good Gulf	832	135°	133°
Dom. Aviation	647	52°	65°
Gasoline X	843	131°	133°
Socony	867		133°
Purol Motor	901	153°	149°

Points Summarized

The points in this paper may be summarized as follows:

1. The dew-point is the best indication of the effective volatility of a gasoline.
2. A volatility index may be made up for any gasoline by taking half the sum of the 10 per cent, 20 per cent, 50 per cent, 70 per cent, 90 per cent and end-points expressed in degrees F.
3. This volatility index bears a fairly good linear relation to the dew-points and may be used to indicate comparatively the general characteristics of a gasoline.

The writer is indebted to Dr. W. F. Faragher of Mellon Institute for helpful suggestions in this work.

RUNS TO REFINERIES DECREASED DURING WEEK ENDED NOVEMBER 10

Total runs to the stills of Mid-Continent refineries decreased 222,583 barrels for the week ending November 10 over the previous week, according to the weekly statistical bulletin of the Western Petroleum Refiners Association. Practically the same amount of crude was run through the still, however, the decrease being due to the dropping off in the reruns. Other features of the report was the decrease in gasoline output and the increase in kerosene and fuel oil output. Gasoline and fuel oil stocks decreased with slight increase in kerosene stocks. Following are the principal tables of the weekly report:

SUMMARY OF REPORTS OF THE SAME COMPANIES FOR WEEKS ENDING NOVEMBER 3 AND 10

(118 Refiners With a Daily Still Capacity of 441,150 Barrels)

	Unit	Week Ending Nov. 3	Week Ending Nov. 10	Change
Crude run to stills	Barrels	1,454,718	1,457,322	2,604 Inc.
Semi-refined oils taken from stocks and runs to stills	Barrels	805,983	580,796	225,187 Dec.
Total oils consumed by stills	Barrels	2,260,701	2,038,118	222,583 Dec.
Output of finished products:				
Gasoline	Gallons	20,830,685	20,632,793	197,892 Dec.
Kerosene	Gallons	5,950 833	6,323,755	372,922 Inc.
Gas and fuel oil	Gallons	30,784,187	32,308,907	1,524,720 Inc.
Stocks on hand at close of week:				
Crude oil	Barrels	5,429,353	7,023,169	1,593,816 Inc.
Semi-refined held for further refining	Barrels	1,575,191	1,275,456	298,735 Dec.
Gasoline	Gallons	103,242 238	100,206,009	3,036,229 Dec.
Kerosene	Gallons	13,877,653	13,926,855	59,202 Inc.
Gas and fuel oil	Gallons	118,229,175	105,626,460	9,602,715 Dec.

COMPARISON OF SHIPMENTS FROM IDENTICAL REFINERIES

Five States Combined, 110 Refineries; Capacity, 414,550 Barrels

	Shipments Week Ending Nov. 3	Nov. 10	Change
Gasoline, gallons	20,840 586	22,961,002	2,120,416 Inc.
Kerosene, gallons	5,660,669	6,003,929	343,260 Inc.
Gas and fuel oil, gallons	32,494,548	40,713,743	8,219,195 Inc.

The Relationship of the Amount Shipped to the Amount Manufactured During the Week Ending November 10 Is Shown in the Following Table:

Five States Combined, 118 Refineries; Capacity, 441,150 Barrels

	Shipped (Gallons)	Manftrd. (Gallons)	Amount Shipped to Amount Manftrd.
Gasoline	23,669,022	20,632,793	114.7%
Kerosene	6,264,553	6,323,755	99.1%
Gas and fuel oil	41,911,622	32,308,907	129.7%

COMPARISON OF STATISTICS FOR WEEK ENDING NOVEMBER 10, 1923, WITH THOSE OF THE PREVIOUS WEEK FOR IDENTICAL REFINERIES

	Kansas	Oklahoma	Texas	La. and Arkansas	Total
Number of refineries	21	53	34	10	118
Daily still capacity (barrels)	75 100	228,300	119,650	18,100	441,150
Percentage Increase or Decrease Compared With Previous Week:					
Materials for stills:					
Crude	3.83% Dec.	2.59% Dec.	5.53% Inc.	20.14% Inc.	0.18% Inc.
Other oils	43.55% Inc.	8.64% Dec.	53.35% Dec.	325.48% Inc.	27.94% Dec.
Total	0.86% Dec.	4.83% Dec.	21.06% Dec.	24.80% Inc.	9.85% Dec.
Output during week:					
Gasoline	3.46% Dec.	3.29% Dec.	4.38% Inc.	21.99% Inc.	0.95% Dec.
Kerosene	1.08% Dec.	10.46% Inc.	1.12% Dec.	70.12% Inc.	6.27% Inc.
Gas and fuel oil	6.45% Dec.	0.33% Inc.	15.50% Inc.	18.31% Inc.	4.95% Inc.
Stocks at close of week:					
Materials for stills:					
Crude	2.97% Inc.	38.25% Inc.	0.19% Inc.	16.86% Inc.	29.36% Inc.
Other oils	5.17% Inc.	8.24% Inc.	54.11% Dec.	23.90% Dec.	18.96% Dec.
Finished products:					
Gasoline	0.61% Dec.	6.80% Dec.	8.24% Inc.	15.63% Dec.	2.94% Dec.
Kerosene	10.75% Inc.	0.23% Dec.	3.80% Dec.	1.15% Inc.	0.43% Inc.
Gas and fuel oil	3.56% Dec.	14.02% Dec.	0.35% Dec.	44.49% Dec.	8.33% Dec.

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Petroleum Products

HIGH GRADE UNIFORM QUALITY

Naphtha	Gear Lubricants
Gasoline	Axle Greases
Kerosene	Solid Lubricants
Fuel Oils	Wire Rope Lubricants
Bunker Oils	Pale Oils
Diesel Fuels	Red Oils
Signal Oils	Black Oils
Miners Oil	Floor Oils
Gas Oil	Paraffin Oils
Distillates	Wax Oil Stock
Spindle Oils	Waxes
Motor Oils	Oil Soap
Engine Oils	Asphalts
Dynamo Oils	Road Oils
Machine Oils	Asphalt Cement
Cylinder Oils	Pipe Coating
Cylinder Stocks	Roofing
Car Oils	Roofing Paper
Greases	Roofing Cement
Cup Greases	Petroleum Coke
Gear Greases	Metal Polishes

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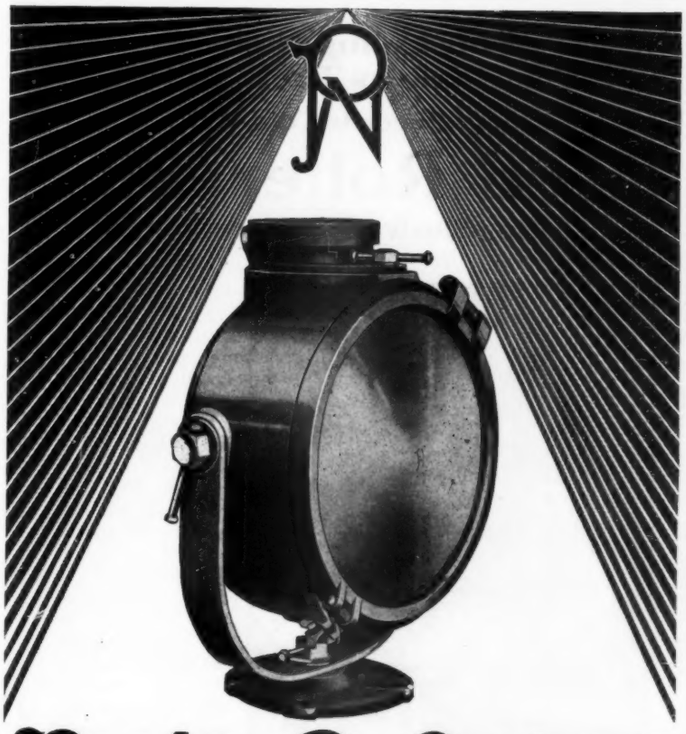

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PYLE-O-LYTES for floodlighting are built in a wide range of sizes and styles to meet every requirement of oil well lighting. They are made by the same factory, and embody the same fine workmanship, as the famous Turbo-Generator, so favorably known and so widely used in the oil fields.

Whether you want a spotlight for a single operation, or a flood of light to illuminate your whole working area, we can give you a Pyle-O-Lyte that exactly meets your need—economically and without waste. The intensity, range, or spread of light is regulated by the right combination of reflectors and lenses.

Pyle-O-Lytes may be used with any lighting unit, but they will always serve you best when used with the

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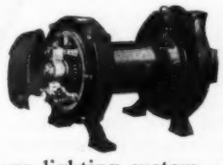

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Your supply house carries Pyle-O-Lytes and Turbo-Generators in stock. See them, or write us for special booklet on oil well lighting.

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This Luling Night Crew Knows Their Stuff

Knock Records Cold With

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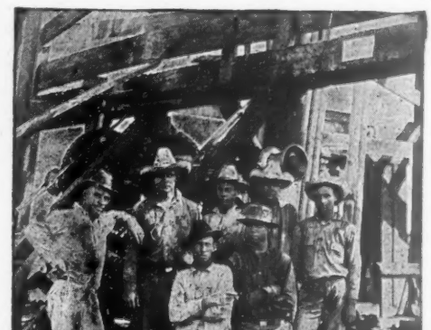
Using Slush for Lubrication



First from left—G. O. Nokes, tool pusher; Second from left, F. E. Blythe, head driller of night crew.

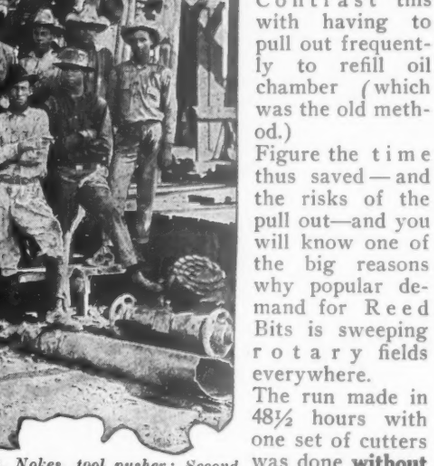
Right through 131 feet of hard rock with only one pull out, same being necessary on account of the formation.

Contrast this with having to pull out frequently to refill oil chamber (which was the old method.)

Figure the time thus saved—and the risks of the pull out—and you will know one of the big reasons why popular demand for Reed Bits is sweeping rotary fields everywhere.

The run made in 48½ hours with one set of cutters was done **without a drop of lubricating oil,** using slush for lubrication.

Slush lubrication is a Reed system exclusively and is possible in no other bits; this is admitted in sworn testimony by competitors.



The strongest rock bit ever built—likewise fastest and safest.

Drilling crews are at their best when furnished with Reed Roller Bits and Reamers.

Anything that lessens the risk of losing a hole, eliminates needless pull outs and speeds up drilling, wins over the driller—right now.

We wonder if there are any drillers, who do not know about this Reed Slush Lubrication System? If there are—we want them to write us for a copy of "Rubiayat of O'Gosh Dingut"—it tells the whole darn story as it came right off the derrick floor.

Reed Service Means Now

Reed Roller Bit Co

HOUSTON, TEXAS, U. S. A.

Stocks with Continental Supply Co. and Frick-Reid Supply Co.

CALIFORNIA OFFICE: 1341 Santa Fe Avenue, Los Angeles. Phone 660-68. Ask for Mr. E. B. Wiggins.

EASTERN FIELDS

(Continued from Page 52)

Davis farm through the Berea grit and good for 15 bbls. a day. In Clay district, Ritchie County, the Stephens Drilling Co.'s test on the B. Darnell farm is dry in the Big Injun sand. In Clay district, Henneghan & Hanlon have a light gasser in the Big Injun sand at a test on the J. C. Satterfield farm. On Whisky Run, Grant district, O. C. Satterfield's test on the James Maxwell farm is a 2 or 3-bbl. pumper in the Maxon sand. On Lick Run, New Milton district, Doddridge County, the Hope Construction & Refining Co. has a 5-bbl. pumper and a 500,000-foot gasser at No. 3 on the W. H. Douglass farm.

Cabell County Completions

Cabel County is completing more wells than at any previous time in a number of years. In Grant district some very fair gas wells have been completed recently. On Little Two-Mile Creek, the Aetna Oil & Gas Co. has a fair gasser in the same district, the Commercial Gas Co. has a 2,000,000-foot gasser in the same formation on the J. C. Williams farm. In the same stream and in the same district, the same company has started to drill tests on the S. J. Kendle and Adaline Kirtley farms. On Charles Creek, the Harshbarger Oil & Gas Co. has drilled No. 9 on the Hollis Braley farm from the Big Lime to the Berea grit. It is a light gasser in the lower formation. On Indian Fork the same company is drilling a test on the Morris Jordan farm, 4,000 feet north of the test on the Tazwell Chapman farm. On Tail fork of Mud River, Carroll district, Lincoln County, the Columbia Gas & Electric Co. has drilled No. 386 on the J. F. Grass farm into the salt sand. It will make a 6-bbl. pumper. On Dunkard Creek, Clay district, Monongalia County, the Martin Oil & Gas Co. has a rig up on the Cannon heirs' farm. In Paw Paw district, Marion County, the Fairmont Gas Co. has a rig up on the Leslie Ice farm.

Roane County

On Straight Creek, Harper district, Roane County, the Empire Petroleum Co. has the rig completed on the O. F. Hunt farm. On Cold Fork, Sherman district, Calhoun County, the Chemical Oil Co. has the rig completed for a second test on the Miller heirs' farm. On the left fork of Dutchmans Run, Murphy district, Ritchie County, A. B. Moore & Co. have the rig completed for a second test on the Winifred D. Moore farm. On Spring Creek, Union district, the Wright Oil Co. has a rig up on the E. C. Kincaid farm. In Clay district, Mahaney & Lucas have a rig completed on the D. H. Riggs farm. In Grant district, David French & Co. are starting a test on the Morton Cassidy farm.

On Jakes Run, Clay district, Monongalia County, the Moore-Tex Oil Co. has a rig completed on the Michael Wright farm. In Union district, Ritchie County, Andrew Goff is starting a second test on the Joseph Goff farm.

Shallow Wells

The new Berea grit pool, in Section 29, York Township, Morgan County, Ohio, is coming to the front with some creditable producers. The latest completion is the Pure Oil Co.'s second test on the Ira N. Baringer farm. It is estimated to be good for 50 bbls. a day. No. 1 on this farm was completed last July and is still holding up at 20 bbls. a day. The Sun Oil Co. holds leases on the adjoining farm and is drilling. In the new development south of Newark, Newark Township, Licking County, another good producer has been completed. It is J. T. Bebout's test on the D. H. Jones farm. The first 24 hours after it was completed and put to pumping from the Big Lime formation it produced 45 bbls. In Section 18, Noble Township, Noble County, Bonwell and others drilled a test on the E. D. Lowe farm to a depth of 1,850 feet and failed to find either oil or gas. In Section 28, Enoch Township, Felix Gerst & Co. completed No. 4 on the A. C. Weisent farm, a 3-bbl. pumper in the Macksburg 500-foot sand. In Section 22, Olive Township, White & McKelvey completed No. 3 on the C. N. Brown farm. It will scarcely make a paying producer in the Berea grit formation.

Dusters in Two Counties

In Section 9, Muskingum Township, Washington County, S. J. Bogard & Co.'s test on the J. E. Stacey farm is a duster in the Macksburg 500-foot sand. In Jackson Township, Noble County, Beeson & Athey have a dry hole in the same formation at No. 4 on the Hupp-Murray farm. In Section 27, Ward Township, Hocking County, C. Mahler had the same kind of luck when he drilled his test on the E. Smith farm through the Berea grit. In Section 29, the Ohio Fuel Supply Co. started to drill on the Job Dawley heirs' farm. In Section 27, Sharren & Sons started to drill on the L. Lowery farm. In Section 15, Hanover Township, Licking County, W. W. and A. T. Wehrle are drilling on the A. F. Francis farm. In Section 13, Bowling Green Township, Licking County, the Midland Oil Co. and the Athey Gas Co. started to drill a joint well on the Murray Bowser farm. The Midland Co. owns the oil and the Athey Gas Co. the gas rights on this farm. In Liberty Township, Washington County, Erbe & Payne started to drill on the Harvey Scott farm.

Fine Producer in Big Lime

The largest producer completed in the southeastern Ohio fields during the past week, is located in the Big Lime development in southeastern Ohio. South of Newark, Newark Township, Licking County, W. W. and A. T. Wehrle completed their No. 3 on the H. S. Reddick farm and have the best producer so far completed in that locality. The well produced flowing its production, 95 bbls. the first, 122 bbls. the second and 159 bbls. the third 24 hours. Late completions in this district have stimulated development work in that section. There are 8 or 10 wells drilling and starting. The territory can be developed at much less cost than the old Clinton sand fields. In gas territory in the southeast quarter of Section 7, Cash Township, Muskingum County, the Trinway Oil & Gas Co. has drilled its test on the Lloyd Fawcett farm through the Clinton sand. It is a gasser good for 500,000 cubic feet a day.

Fair Producer in Coshocton County

Located in Clark Township, Coshocton County, the Pure Oil Co. has drilled a second test on the Harry Carpenter farm through the Clinton sand and showing for a 40-bbl. producer. In Section 17, Clay Township, Knox County, J. J. Bell & Co. have a small gasser in the Berea grit at a second test on the Foster Dodd farm. In Louden Township, Carroll County, A. L. Curry & Co. completed in the Berea grit No. 6 on the Tony Miskel farm, a 5-bbl. pumper.

Week-End Completions

West Virginia rounded out the week of development work by completing the best producer that has been found in that State for more than six months. It is the South Penn Oil Co.'s No. 5 on the L. B. Webster farm, located in DeKalb district, Gilmer County. It is located 2,000 feet south of No. 3 on the same farm and produced 150 bbls. the first 24 hours after drilling through the Maxon sand. It has not been shot. For a number of months Gilmer County has not been furnishing anything better than light pumpers and some fair gas wells. On the head waters of Indian Creek, McElroy district, Tyler County, the Wiser Oil Co. has now drilled its No. 3 on the Samuel Lyons farm through the Gordon sand. It is a very light pumper.

In Ritchie County

In rounding out the week of development work, Union district, Ritchie County furnished nothing but gassers and dry holes. The Hope Natural Gas Co. got a duster in the Big Injun sand at a second test on the T. A. Mason farm. The same company got a gasser in the same

formation at No. 6 on the Roscoe Perrin farm. The Pittsburgh & West Virginia Gas Co.'s test on the Bird Smith farm is dry in the Big Injun sand. Elder & Straley have a gasser in the Big Injun at a second test on the J. E. Day farm. The Carnegie Natural Gas Co. has a gasser in the same formation at a test on the W. A. Reed farm.

Southeastern Ohio

The southeastern Ohio fields presented another good producer at the close of the week's development work. In Licking Township, Muskingum County, the Pure Oil Co. drilled its No. 3 on the A. D. Montgomery farm through the Clinton sand and good for 100 bbls. a day. In Lot 22, Franklin Township, Licking County, Ralph Bros. drilled No. 4 on the Boy Scout farm through the Berea grit. It produced 8 bbls. the first 24 hours after shot. In Section 27, Ward Township, Hocking County, Melcher & Co. have a duster in the Berea grit at a test on the E. Smith farm. In the same township, Sharren & Sons got one of the same kind at a test on the L. L. Lowery farm. In the same locality, the Pure Oil Co. completed a duster when it drilled its test on the W. Stout farm through the Berea grit. In Falls Gore Township, in Section 11, Kelch Bros. have a very light pumper in the Berea grit at No. 4 on the Martin-Adcock farm.

In Independence Township, Washington County, E. Clark, Jr., drilled his No. 31 on the Peter E. Hurland farm through the Mitchell sand and has a 5-bbl. pumper. In Newport Township, the H. B. Huling Estate completed No. 9 on the O. O. Newlan farm, a very light pumper in the first Cow Run sand. In Section 8, Wayne Township, Monroe County, Highman & Co.'s test on the Rosa Lowe farm is a duster in the Big Lime formation.

Southwest Pennsylvania

At Baden, Beaver County, Holsinger & Co. drilled a test on the O. S. Musgrave farm through the 100-foot sand. It is a fair gasser in this formation.

KANSAS FIELDS

(Continued from Page 50)

same section, was a machine. Mitchell and others were spudding No. 1 Perkins, CWL SW SE, Section 33-29-9. Deitrick and others' No. 1 Schul, SE cor. Section 21-30-9, was a rig.

In Coffey County, Mendenhall and others' No. 6 Elliott, CSL NE SW, Section 14-23-13, was making 15 bbls. after an 80-quart shot in sand at 1,784-1,801 feet.

Greenwood County

In Greenwood County, Shawver & Wilks' No. 1 Cox, SE cor. NW, Section 9-23-12, was dry and abandoned at 2,265 feet. Hutton & Ragan's No. 1 Ott, SW cor. Section 13-24-11, was a failure at 2,376 feet. Lock and others' No. 1 Fleming, SE cor. NE, Section 15-24-12, was estimated to be making 40 bbls. from sand at 1,726-44 feet, after topping the lime at 1,706 feet. Ward McGinnis and others' No. 1-A Ladd, NE cor. SE, Section 18-25-9, was drilling at 1,600 feet. The Magnolia Petroleum Co. was rigging up No. 1 Breese, NE cor. NW SE, Section 29-26-9.

R. G. Gillespie abandoned location for No. 1 Kaiser, SW cor. SE SE, Section 22-22-13, and also for No. 1 Clark, SW cor. NW, Section 27-22-13. The Syndicate Oil Co. had a rig on the ground for No. 1 Clopton, SE cor. Section 23-22-10. The White Eagle Oil & Refining Co. was spudding No. 1 Edwards, SW cor. NE, Section 13-23-10. The Mission Oil Co. was spudding No. 32 Thrall, NE cor. Section 27-23-10. Clark and others were drilling at 650 feet in No. 2 Anderson, CSL SE SE, and at 700 feet in No. 4 Davis, CWL SW NE, Section 8-28-11.

The Magnolia Petroleum Co. had a rig on the ground for No. 1 Breese, NE cor. NW SE, Section 29-26-9. R. G. Gillespie had rigs for three wells: No. 15 Swanson, SW cor. NW SE, Section 20-23-13; No. 6 Gribin, CNL NE NE, same section and No. 7 Jones, CNL NE SW, Section 21-23-13.

R. G. Gillespie's No. 5 Jones, CSE NW SW, Section 21-23-13, was good for 50 bbls. from sand at 1,705-15 feet. Smith & Swarty's No. 1 Cox, SE cor. NW, Section 9-23-12, was abandoned with a hole full of water at 2,265 feet topping the Mississippi lime at 1,900 feet. McGinnis and others' No. 1 Teter, NE cor. SE, Section 18-25-9, was drilling below 700 feet. Rodgers and others reported a small show of oil in their No. 2 Leedy, CNL SE NW, Section 31-22-10, from sand at 2,585-88 feet and was drilling ahead below 2,615 feet.

The Mission Oil Co. was spudding No. 2 Tucker, NE cor. SW, Section 22-23-10. The Empire Gas & Fuel Co.'s No. 7 Seeley, NE cor. SE NE, Section 5-23-11, was spudded and shut down.

In Harvey County, Duquett and others were spudding No. 1 Thames, SW cor. SE, Section 20-22-2e. Frank Wahn had timbers on the ground for No. 1 Brown, SE cor. Section 33-22-2e. Mason and others made a location for their No. 1 Hawk, NE cor. SE, Section 4-23-2e.

Asmall show of oil was reported by Lampe and others in their No. 1 Anderson, SW cor. NW NE, Section 2-20-3e, Marion County, from sand at 2,681-96 feet. The well was shut down at 2,696 feet.

BRITISH CONCERN TO CORE DRILL ARKANSAS

OKLAHOMA CITY, Nov. 19. — The Cambrian Trust, Ltd., of London, Eng., which recently purchased a large tract of land in fee in Grant County, Arkansas, has contracted with the Sullivan Machinery Co. of Chicago to drill a number of test holes with a diamond core drill. The first of these is drilling below 300 feet. Dr. George C. Branner, State geologist of Arkansas, is receiving cores and will keep tab on sands, clays and lime with a view of their commercial value as well as of oil and gas formations. The holes are to be two inches in diameter and it is reported they can be drilled at a cost of $3.50 a foot.

The core drill has been used but little in Arkansas. It is recommended by the State geologist in wildcat areas.

PRAIRIE-P. & R. MERGED

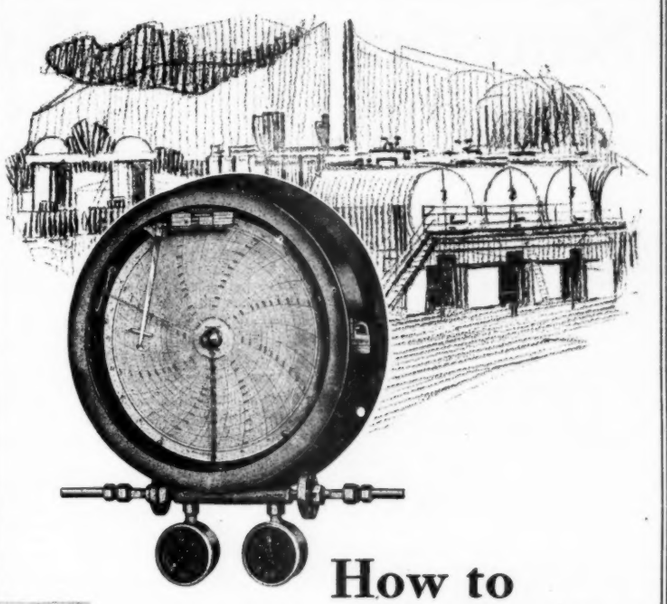
With 525,000 common shares of the Producers & Refiners Corp. deposited under the plan for acquisition of control of Producers & Refiners Corp. by Prairie Oil & Gas Co., merger plans become operative. The basis of exchange was 10 shares of Producers & Refiners common for one of Prairie Oil & Gas stock. The latter has the option of limiting the amount of Producers stock exchanged to 51 per cent, or may accept more if it so elects. The last date for deposit of Producers' stock was November 15. The 525,000 shares deposited represents about 72 per cent of the 732,860 common shares of Producers & Refiners now outstanding.

PIONEER OIL BURNING R. R.

The Missouri, Kansas & Texas is the pioneer oil burning railroad among the large southwestern lines operating from St. Louis, introduction of oil on the Texas lines having been made the latter part of 1919. Oil burning engines now operate 94 per cent of the line's mileage. Records show 3.5 bbls. of oil are equivalent in combustible matter to one ton of coal, or a weight of 1,100 pounds of oil is as high in heat value as 2,000 pounds of coal.

ADDING TO STORAGE

KANSAS CITY, Mo., Nov. 19.—The Pennsylvania Petroleum Co. of North Kansas City, Mo., J. E. Williams, president, has just completed the installation of 30,000 gallons of new storage and is preparing to purchase tanks which will hold another 30,000 gallons. The company is also completing the equipment for its new laboratory for testing oils and research in lubrication practice.



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Statistics Now Big Factor in Success

Volume of Business So Great and Competition So Keen, Facts of Production, Consumption and Distribution are Necessary

By A. V. Bourque

(Delivered at Fall Conference, Association of Natural Gasoline Manufacturers, Fort Worth, Tex., last week)

Statistics, once the stepchild of business, has become the handmaiden of progress. Once a word of derision it is now a word to conjure with. From something, which in the past was to be endured, and not too patiently at that, statistics have proved themselves to be the very safety brakes of industry. From the lowest scale they have by their own worth attained a place in commerce hardly second to any other integral part of the nation's business.

There was a time when statistics were considered of but little value and, in the minds of many, had no place in the conduct of their businesses. Whether it was the fault of statistics or the fault of business I am not prepared to say; probably it was a little of both. The fact remains, however, that in the past, the average man was content to live unto himself alone as far as business was concerned and had no time for a lot of "new-fangled ideas" which, to his mind, meant a lot of study and work without any added compensation or recompense for the loss of time and work involved.

In the olden days business men took no thought of what their competitors were doing. In fact, they took but little thought of the needs of their customers. Their business was run on the policy of making all of a certain product they could, and, if there was a falling off in the demand, and a portion of their stocks remained unsold, by reason of conditions of which they were ignorant, they cut their output accordingly, little realizing that a change in conditions in the particular district in which they marketed their goods might have meant an increased demand rather than a curtailment.

Kin to "Sarsaparilla"

It was during this era of business that statistics struggled hard for a footing. The very word "statistics" was hard to pronounce and in the pre-Volstead days, almost impossible. It is even said that wives used the word "statistician" as a test when hubby came home from a hard night's work at the office. The average man knew as little about them as he did the location of King Tut's tomb, and if the truth were told he thought they were about as dry and dusty as the old King himself. Yet, like the tomb of the famous King, the opening of which has yielded treasures of which the modern world never dreamed, so have statistics opened to modern business a wealth besides which the old Egyptian monarch's pales into insignificance.

The day of mere toleration is passed for both statistics and the statistician and they are now recognized, not as an evil, but as a necessity and accorded their rightful place in industry. The need for statistics is demonstrated in the fact that practically every association in the country maintains a statistical department. Business today is so great in volume and so varied in character that it is impossible for the individual manufacturer to inform himself of all the necessary facts to enable him to conduct his business along intelligent lines. His markets are, for the most part, at considerable distances, and competition is keen. Without statistics he is helpless and at a complete loss to know how to properly conduct his business. Without knowing the kind and character of the competition he is receiving he is generally at the other man's mercy and usually but one result follows, and that is failure. The full publicity to all brances of an industry make for fairness and legality in all trade association work. The honest and painstaking distribution of accurate data is in the best interest of trade and will keep an industry governed by the law of supply and demand rather than by speculative activity.

Essential to Business

One of the most pertinent facts for the producer to determine is the amount he ought to produce. In considering this he should know, as nearly as possible, the productive capacity of his competitors. Actual production figures are valuable only as they serve to line up immediate conditions. If the period is passed, the actual production during that time may have little, if any, bearing upon the future and, taken alone, knowledge of productive capacity is of little value To make information of that kind valuable, it should be compiled with distribution statistics.

Compilation of figures showing distribution of given production by districts furnishes a record from which the intelligent business man can draw proper conclusions. That kind of a record will show him that run of general business constitutes a certain volume of the commodity in which he was interested was actually distributed in the various territories during the periods taken. If this record is reinforced with the volume of starting point to determine the volume he will produce for the next period. Year by year distribution records and statistics become of greater value, especially when the peak is passed and years of normal production and distribution follow.

Statistics regarding distribution of the product when coupled with production and capacity statistics for the same period are of great value. The data of the distribution by districts, with stocks on hand therein, will show the territories that are overloaded as well as those that may be short in supply. No sensible business man is going to attempt the sale of his product in a territory that is already overstocked. This is especially true if the statistics demonstrate that the actual distribution for the place taken, coupled with stocks on hand substantially equal the normal consumption. The districts that show a lack of supply will be the ones that will receive attention and sane

(Continued on Page 98)

METHODS OF BLENDING NAPHTHA INTO COMMERCIAL GASOLINE

By H. R. Noble

Vice President and General Manager, Shreveport Prod. & Ref. Corp.

It is needless to call attention to the rapid growth of the natural gasoline industry. It has more than kept pace with the growth of the straight run refineries, and, in the short space of a few years, has made its product a necessity of the greatest importance in the manufacture of commercial gasoline.

Natural gasoline is used by the straight run refineries for blending naphtha into commercial gasoline, the object being to lower the initial boiling point or meet higher gravity specifications. Our experience has never proved practical in blending for lower end point. The heavy ends always show up in a distillation test unless the percentage after blending is so small the lighter ends carry them over before the thermometer has reached the end point specification. The percentage of heavy ends above the end point specification must be 2 per cent or less after blending in order to insure a safe end point on our commercial product.

Methods of Blending

Various methods of blending are in use at the different straight run refineries. After gauging a car of natural gasoline, the cap is replaced, connection is made with the bottom outlet of the natural gasoline car and, by the use of

(Continued on Page 98)

LEADERS, ASSOCIATION OF NATURAL GASOLINE MANUFACTURERS

Officers and members of the executive committee attending Fall Conference of the Association of Natural Gasoline Manufacturers held at Fort Worth, November 15 and 16.
Front Row (left to right): R. R. Owen, Mariand Refining Co., Ponca City, Okla.; Emby Kaye, Skelly Oil Co., Tulsa; A. V. Bourque, secretary, Tulsa. Second Row (left to right): W. A. Melton, Liquefied Petroleum Gas Co., Tulsa; E. L. Peck, Empire Refineries, Inc., Bartlesville; W. M. Welch, Tidal Refining Co., Tulsa; D. E. Buchanan, Chestnut and Smith Corp., Tulsa, president; F. L. Chase, Lone Star Gas Co., Dallas, vice president

Petroleum Industry Nearing Recovery

Standard of New Jersey Publication Estimates That Stocks in Existing Fields Should be Reduced by Next Summer

Courtesy of "The Lamp"

There has been in the past two months a further large addition to surplus stocks, which are now at new record levels, and but a moderate decrease in production in the fields which caused the upset in 1923.

In other words, looking at the situation as of two months ago and as it stood at the end of October, the industry would seem to have lost ground. Actually, the reverse is true because it is two months nearer recovery. The indications now are that the peak of production is near if it has not already actually been passed, and there has been a very general downward revision of prices of both crude oil and finished products which at that time hung in prospect as a threat to the industry.

Cause of Fluctuations

It is expensive, of course, to carry such a large amount of petroleum as is now in storage, though there are some compensating advantages. There has never been established a normal means as the right amount of oil for the United States to hold in reserve. The larger this is the less likelihood there is of a recurrence of crises such as have developed on a few occasions in the past when the reserve ran alarmingly low.

It is frankly recognized by the industry that the conditions under which crude oil is produced result in some waste which could be avoided if it were possible under the law for oil producers to come to an agreement. Perhaps the advantages of the Sherman Act and similar legislation outweigh such evils as this, which must result. In addition, there are certain conditions which seem to be inseparable from the industry because of the peculiar nature of petroleum deposits and the existing custom of competitive leasing. These conditions, both of them beyond control of the industry, are the underlying cause of the wide and sometimes frequent fluctuations in the price of crude oil.

Recent discussions in the press and elsewhere have made it plain that there is a lack of understanding of these economic conditions with which the industry has to contend among Legislators, State and Government officials and on the part of the general public.

Products Are Fixed

To begin with, the layman should be reminded that the products which the refiner can get from crude oil are rather closely fixed by nature. He cannot extract kerosene or lubricating oil exclusively when the market calls for those products and then by changing his method of manufacture produce only gasoline when the demand has swung to that. It is true that different crude oils yield a widely differing range of finished products. If we take an average barrel of crude oil produced in the United States it yields under present methods 46 per cent of gas and fuel oil, 27 per cent of gasoline, 10 per cent kerosene and 4 per cent lubricating oil and varying quantities of asphalt, wax and other miscellaneous products. So that while gasoline is the most important product obtained from the crude in volume it is but little more than one-quarter of the barrel of crude.

The cost of refining or manufacture, transportation and distribution is practically fixed, so that the cost of products follows closely the movements in the price of crude. A failure in demand for one of the products put an undue portion of the cost upon another product which the public will buy, since the refiner must realize from his combined products money to cover his cost of raw material and manufacture.

In the second place it should be understood that it is not right to take the experience of a single corporation with which the reader may be familiar as fairly indicative of the earnings to be made out of petroleum. It is essentially still a hazardous business, possessing the risks of all mining enterprises with a number of special risks of its own. In such an enterprise, occasional examples will occur where companies have been extremely fortunate, but against this alluring prospect must be set the experience of other equally well conducted concerns which have not been successful.

Problem of Storage

To keep his plant in operation the refiner must have storage for crude oil, and to be able to deliver it to the refiner the pipe line company or producer must have also field storage. The refiner is protected as far as possible from periods of undersupply by his built up stocks of crude oil and refined products. This reserve is necessary not only for that reason but for the military requirements when the safety of the country is threatened. What the public does not understand is that a refiner cannot begin running on Tuesday oil on which the price has been cut on Monday, owing both to the length of time required to move oil half way across the country and to the stocks of higher priced crude already in the refiners' tanks. Nor does the public generally appreciate the very heavy cost of carrying oil in storage for its protection against a time of underproduction.

When stocks above ground are larger than the industry needs in reserve, loss begins because storage facilities must be provided to meet an abnormal condition and heavy carrying charges assumed. The cost of carrying oil in storage is a considerable item, both because of the waste suffered through evaporation of the products and because of the interest charges on the amount of capital demobilized and represented in tankage and its contents.

Cost of Surplus

How large is this problem represented by surplus stocks on hand and what is it costing the country? On the first of January of this year stocks were well above normal, totaling 375,000,000 barrels. If, by the turn of a valve the industry could have practiced conservation it would have started in then to work off the excess oil in storage to reduce carrying charges. But note what has happened since. Despite an increase in consumption, the stocks on hand have gone up day by day so that in the first three-quarters of 1923 instead of lowering the level of storage, there was an increase of 100,000,000 barrels. On the first of October then, with the season of lessening consumption at hand, the oil industry in the United States was carrying in reserve 475,000,000 barrels, representing in capital tied up in crude oil, finished product and the containers, over one billion dollars and an annual charge for interest and loss of $150,000,000.

That is a situation which ought to cause concern not only to the oil industry but to the public which buys its products. If not a drop of oil was produced or imported, the United States could live on its present stocks for the next eight months.

But, unfortunately, producing wells cannot be turned off and on at will and changes are rather slow in making themselves felt. With all the oil now above ground we have been adding rapidly to the total. The present production of crude in the United States is about 2,150,000 barrels per day, with an additional 250,000 barrels of imports. Against this total daily supply of 2,400,000 barrels is a present daily consumption of about 2,100,000 barrels, so that for some time there has been going into storage, in round numbers, 300,000 barrels of surplus production every day.

Must Plan Ahead

The situation is best understood by a little consideration of the peculiarities of the "producing game." In the first place, the continued returns of existing fields cannot be closely calculated. No one knows even approximately how much oil there is in the ground, even where the limits of a field have been closely outlined by drilling. There is no standard of behavior followed by oil wells. The one fact certain is that after the flush production is off they will yield a decreasing amount of oil, rapidly or slowly, depending upon the depth of the sand, the rock pressure, the number of wells drilled, the nearness of salt water and other factors. A company which did no drilling but only acquired producing wells would still be engaged in a hazardous industry, for the producer must always be in a receptive frame of mind to detect and appreciate signs of failure in one field or favorable development in another. One of the most difficult problems is to correctly anticipate results from newly discovered fields and the probability of finding other fields. The best calculations of experienced producers have been upset too many times to make them willing to assume the prophet's role.

By the year's end it is probable there will be accumulated in the United States about 120,000,000 barrels of crude above the stock of almost 375,000,000 barrels on hand as January 1, 1923. For the greater part of these stocks storage has been constructed during the year.

Looking still further ahead it is indicated that the first of June, 1924, an additional 32,000,000 barrels, or approximately 200,000 barrels a day of crude oil and finished products will have to be stored, bringing the total probable stocks on June 1 next year to more than 525,000,000 barrels—a total equal to about 250 days' production at the present rate. However, at this point, according to the present indications, consumption, which has been rising with the usual seasonal demands, crosses the line of current production and imports, so that there is an indicated draft on storage in the month of June amounting to 100,000 barrels a day. If this expectation is realized, the industry will then be in a healthy condition except for the enormous accumulation of stocks.

Assuming that the forecast is approximately correct, the total production and imports after June 30 would continue a somewhat slower decline while consumption would parallel its course of the present year and the draft on stocks would continue at least until the winter of 1924 began to curtail consumption. However, if the demand of the refiners for crude resulted in a higher level of prices and a subsequent stimulation of drilling activities, the improvement in the general situation would be further delayed, as would be the case if the limited wildcat drilling now going on should develop a considerable new production in localities now unproductive. Then again a marked change in general business conditions either at home or abroad, would have an important and direct effect on consumption.

Prognostications do not influence Nature, and the date at which the country's consumption of petroleum products will cross the line of production may be a month or three months away from the meeting point indicated on the chart. That is not an indictment of the industry's attempt to guide its present actions by its estimate of probable conditions in the future. The inevitable fact is that before many pages are torn from the calendar the United States will be using more oil than it is producing. The resulting draft on accumulated stocks in storage may be brief or protracted, but unles precedent is of no value it will come and will start a fresh wave of drilling and wildcatting.

Funadmentally Sound

Extreme fluctuations in the price of petroleum products follow simliar fluctuations in the cost of crude oil. Now the industry knows that either extremely low or high priced crude oil is uneconomic. Crude prices such as we experienced three years ago resulted in much ill-advised unnecessary drilling with consequent loss to the industry. A period of unprofitably low prices such as now prevails means the abandonment of thousands of small wells which under such circumstances cannot be operated except at a loss. Their neglect and abandonment constitute a menace to the region due to the probability of inundation of the producing sands with a resultant permanent loss to the industry and the public of their production.

The public would be less eager for gasoline at 10 or 15 cents a gallon if it undertsood the situation. Over a five-year period it would mean a money saving for the consumer to pay at all times a price that made possible a reasonable profit to efficiently managed oil companies. When gasoline and other petroleum products are offered at less than the cost of refining, as has been the case at many points this year, it means that capital is going out of the industry which will not return and that eventually the pendulum will swing back to shortages and higher prices. When oil is pressing for sale as it is today, resources that ought to be preserved are depleted and wasted, for conservation means much less than when the producer is making a profit.

It need hardly be said that the oil industry by and large is fundamentally sound. The manifestations of price wars and falling stock quotations are surface indications of a temporary disturbance which will pass as quickly as it began. An industry which is being called upon daily for upwards of 2,000,000 barrels of petroleum products can view with equanimity even the present oversupply, both in current production and in accumulated stocks, knowing that it is only a question of time until stability will be restored and a draft made upon stocks in storage.

POWELL FIELD OUTPUT TOBOGGANING RAPIDLY

CORSICANA, Tex., Nov. 21.—The production of the Corsicana Field is down to 280,000 bbls. today. This is a drop of more than 74,000 bbls. from the peak production of the field on November 13.

SHELL UNION PROFITS

The Shell Union Oil Corp. and its subsidiary companies reports profits of $3,898,551 for the quarter ending September 30, bringing the total profits for the first nine months of 1923 to $14,947,752.

PETROLIA PIONEER DIES

CHATHAM, Ont., Nov. 17.—Roger Scott, for many years associated with the oil industry at Petrolia, died recently, aged 80 years.

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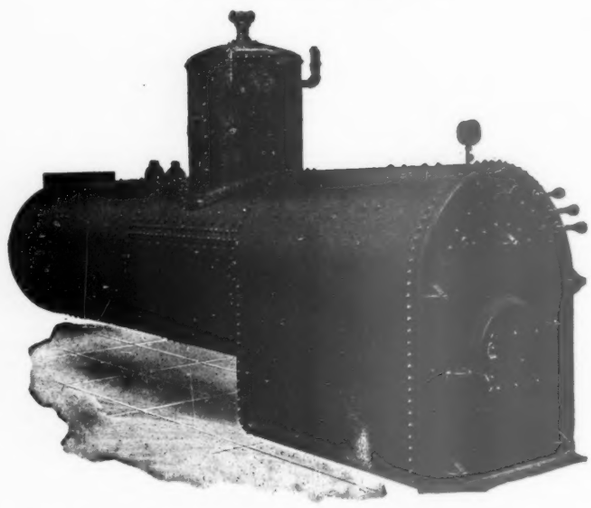

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El Dorado, Kansas—El Dorado Machine & Tool Company.
Ft. Worth, Texas—Longhart Supply Co.

N. LOUISIANA-ARKANSAS

(Continued from Page 42)

at 2,280 feet in No. 1 Fee, Section 30-15-16. The Houston Oil Co. is riigging up to drill No. 1 Patton, Section 31-15-16, and in Section 27-15-16 is rigging up to drill No. 2 Reynolds.

Stephens Field

Three locations have been abandoned during the week by the Atlantic Oil Producing Co., and five by the Shaffer Oil & Refining Co., all in proven territory.

Several good pumpers were put on the beam, Haskell and others getting a 40-bbl. well in No. 8 Webfer, Section 24-15-20, at 2,153 feet; the Magnolia Petroleum Co. a 30-bbl. pumper at 2,102 feet in No. 2 Hammond, Section 25-15-20; Turley & Tate a 40-bbl. well in No. 3 Milner, Section 24-15-20, at 2,162 feet, and Wingfield and others a 40-bbl. well in No. 3 Milner, Section 23-15-20, at 2,153 feet.

The only rig left running in this area is Nete Hoffman's No. 1 Buffington, in Section 24-15-20, now drilling at 950 feet.

Ouachita County

In the east end of the Stephens Field, in Ouachita County, two wells were completed by the Arkansas Invincible Oil Corp. in No. 1 L. Jones, in Section 30-15-19, pumping 77 bbls. at 2,115 feet and No. 2 Wesley in Section 18-15-19, pumping 52 bbls. at 2,166 feet.

The Atlantic Oil Producing Co. is drilling at 1,650 feet in No. 3 John Webfer, Section 30-15-19; the Mutual Oil Co. is arranging to pump No. 4 Hamilton, Section 19-15-19, at 2,142 feet and the Standard Oil Co. is bailing No. 1 W. Jones, Section 31-15-19, in nine feet of sand at 2,200 feet.

Bellevue Field, Bossier Parish

In the shallow sand territory at Bellevue, the Humble Oil & Refining Co. completed No. 23 Roy, Bliss & Weatherbee, in Section 15-19-11, pumping 5 bbls. at 450 feet; R. O. Roy got a 50-bbl. pumper in No. 18 Scanland, Section 15-19-11, at 368 feet and the Standard Oil Co.'s No. 5 Bliss & Weatherbee, in Section 10-19-11, is pumping 8 bbls. at 365 feet.

The Humble Oil & Refining Co. is drilling at 315 feet in No. 20 Roy, Bliss & Weatherbee, Section 15-19-11; the National Oil Co. has set 6-inch casing at 330 feet in No. 12 Elston, Section 10-19-11; R. O. Roy is drilling at 300 feet in No. 22 Scanland, Section 15-19-11, and the Standard Oil Co. has derrick up for No. 9 Bliss & Weatherbee, in Section 10-19-11.

Caddo Parish

Another good well was completed by the Dixie Oil Co. in the deep sand in the Pine Island district, No. 53 Robertshaw, in Section 13-21-15, pumping 280 bbls. at 2,950 feet. No. 56 Robertshaw, in the same section, made a 5-bbl. pumper in chalk rock at 1,640 feet.

The Dixie Oil Co. is drilling at 210 feet in No. 2 State, Section 13-21-15, and the Fortuna Oil Co. is reaming to set liner at 1,625 feet in No. 18 Robertshaw, Section 14-21-15. The Humble Oil & Refining Co. is arranging to test at 2,285 feet in No. 1 Youree Randolph, Section 24-20-15. The Muslow Oil Co. is drilling at 1,800 feet in No. 2 Brown fee, Section 32-21-15.

Claiborne Parish

The Ohio Oil Co. is drilling at 3,235 feet in No. 1 Teague, Section 10-23-7, a deep test on the edge of Haynesville district.

De Soto Parish

Pollock and others have salt water in No. 1 Jenkins, Section 25-13-13, and are arranging to abandon at 2,815 feet.

Red River Parish

The Fortuna Oil Co. tested dry at 2,765 feet in No. 58 Pugh, Section 7-12-10, and are arranging to drill deeper. No. 16 Armistead, in Section 24-12-11, is drilling at 2,600 feet.

Louisiana Wildcats

Bienville Parish: The Ohio Oil Co. is drilling at 1,100 feet in No. 1 Bodcaw Lumber Co., Section 19-16-6, 3 miles west of Bienville and 12 miles south of Gibsland. The Standard Oil Co. is drilling at 2,415 feet in No. 1 Leona Scott, Section 21-17-8, 10 miles southwest of Gibsland.

Bossier Parish: The Oil Fields Gas Co. is rigging up to drill No. 1 Bollinger in Section 29-23-11, 10 miles northeast of Plain Dealing. This well is in the north end of Bossier Parish, within 4 miles of the Arkansas line and will make an interesting test in new territory.

In the south end of Bossier Parish Skannell and others set 6-inch casing in No. 1 fee, Section 22-17-12, about half way between Shreveport and the Elm Grove gas territory, and Sneed and others are down 360 feet in a test on the Jones land in Section 23-18-11 ,15 miles east of Shreveport.

La Salle Parish: The Urania Petroleum Co. has a fishing job at 1,800 feet in No. 2 Urania, Section 20-10-2e.

Lincoln Parish: The Bob Church Pool encountered hot salt water in a test on the Huffman lease in Section 20-20-2w, 12 miles southwest of Farmerville, and the well was abandoned at 2,912 feet.

The Four Creek Oil Co. is arranging to set 6⅝-inch casing at 725 feet in No. 1 Colvin, Section 27-20-3w, 15 miles southwest of Farmerville.

Morehouse Parish: Drilling activity in the Monroe gas field is steadily on the increase and the field is being rapidly depleted by the enormous amount of gas used in the carbon black industry. The Consolidated Oil Co. is testing at 2,320 feet in No. 1 Oden, Section 28-20-5. Cronin & McKenzie have set 8-inch casing at 955 feet in No. 2 Perry, Section 13-20-4, and Ladel and others are drilling at 1,750 feet in No. 16 fee, Section 21-20-5.

Morris, trustee, is drilling at 1,650 feet in No. 1 Plemmons, Section 20-20-5, has derrick up for No. 1 Rogers, in Section 15-20-5, and has set 8-inch casing at 950 feet in No. 1 White, Section 28-20-5.

Ouachita Parish: In the Ouachita Parish area of the Monroe gas field, there were five gas wells completed during the week, the largest with a volume of 28,000,000 feet, the others ranging as low as 3,000,000 feet. In the early days, the uniform volume of wells in Monroe district was from 35,000,000 to 50,000,000 feet.

The Consolidated Carbon Co. completed No. 1 Wilson on Section 2-19-5, making 28,000,000 feet of gas at 2,287 feet.

The Monroe Louisiana Carbon Co.'s No. 1 fee, in Section 28-19-5, made 14,000,000 feet at 2,240 feet. The Texas Co.'s No. 1 Winchit, in Section 31-19-5, made 5,000,000 feet of gas at 2,230 feet.

The United Oil & Gas Production Co. completed No. 2 Balkum, in Section 3-19-5, making 13,000;000 feet of gas at 2,300 feet. Zeigin & Clark's No. 1 Winchit, in Section 32-18-5, made 3,000,000 feet of gas at 2,242 feet.

The Atlas Oil Co. set 8-inch casing at 3 068 feet in its deep test for oil on the West Virginia Timber Co. lease in Section 3-18-5; Chester Carbon Co. is drilling at 1,000 feet in No. 1 Flournoy, Section 22-19-5; Consumers Gas Co. at 1,700 feet in No. 2 Richie, Section 8-19-5; Cosmos Carbon Co. at 1,560 feet in No. 2 Hancock, Section 20-19-5, and Fortuna Oil Co. at 1,770 feet in No. 1 Cole, Section 35-20-4.

Hosterman and others are drilling at 2,000 feet in No. 1 Collins, Section 31-19-5; Ladel and others at 850 feet in No. 17 fee, and at 150 feet in No. 18, Section 29-20-5, and Haynes and others at 1,000 feet in No. 2 Dixie Lumber Co., Section 54-17-3. The Magnolia Carbon Co. is drilling at 1,775 feet in No. 1 fee, Section 28-19-5; Peerless Carbon Co. has derrick up for No. 2 fee, in Section 28-19-5; Southern Carbon Co. is drilling at 2,200 feet in No. 24 fee, Section 27-19-5, and The Texas Co. set 6-inch casing at 2,188 feet in No. 3 O'Neal, Section 33-19-4.

The Texas Louisiana Production Co. is rigging up to drill No. 3 fee, in Section 4-19-5; United Oil & Gas Production Co. is rigging up to drill No. 1 Kerr, in Section 12-19-4, and West Virginia Oil & Gas Co. has a fresh water flow in No. 2 West Virginia Timber Co., in Section 4-18-5, and has lost the hole at 705 feet.

Union Parish: The Davidson & Palmer well in the north end of Union

Parish is still regarded as the possible nucleus of a new field, although there is yet nothing sensational about this development. The well is on the Frost-Johnson Lumber Co. lease in Section 12-23-1e, 15 miles north and a little east of Farmersville, and when shut in at a depth of 2,217 feet it was slopping over the top at the rate of five or six bbls. a day, 50 per cent oil and 50 per cent salt water. Another test has been started by Davidson & Palmer on the Green lease in Section 19-23-1, 5 miles southwest of the Frost-Johnson well.

The Empire Gas & Fuel Co. is drilling at 1,780 feet in an interesting test on the Hamilton lease in Section 30-19-1e, 11 miles south of Farmerville. The Union Power Co. is drilling four wells on the Union Sawmill Co. lease, 10 miles west of Bastrop and 20 miles east of Farmerville, about 10 miles northwest of the Monroe gas field.

Webster Parish

The completion of a 25,000,000-foot gas well with a light spray of oil has centered in the interest of oil operators on Webster Parish as another possibie oil field and leases are soaring in this vicinity. The well was drilled by the Oil Field Gas Co. on the S. J. Merritt lease in Section 14-21-10, and was completed at 2,535 feet. It is about 15 miles southwest of the Haynesville Field and the same distance northwest of the Homer Pool.

In the vicinity of the new well in Webster Parish, O'Brien and others are rigging up to drill No. 1 Doles in Section 26-21-9; Snyder and others have made a location for No. 2 Hodges, in Section 15-21-10, and the Triangle Drilling Co. for No. 1 Merritt, in Section 14-21-10. In the north end of Webster Parish, the Ohio Oil Co. is drililng at 850 feet in No. 1 Martin, Section 34-23-10.

Arkansas Wildcats

Hempstead County: Myers and others are drilling at 1,660 feet in No. 1 Nichols, Section 17-11-25.

EAST CENTRAL TEXAS

(Continued from Page 50)

like 585,000 bbls., a record unsurpassed in the history of the oil business.

Powell may not show 167 completions as it did in October for the reason that the potential production has been so high recently that the pipe lines have not been able to take care of more than 300,000 bbls. a day and at all times there are from 50 to 60 wells shut down on top of the sand waiting for production to drop to a point where the shut down wells may be drilled in and the production taken care of and for the further reason that so much of the field has been developed that drilling operations are declining.

Produced 24,400,000 Bbls.

The production of the Powell Field in October was 7,678,700 bbls. from 428 wells, an average of 247,700 bbls. per day. The production in September was 170,235 bbls. a day and in July 124,158 bbls. per day. In the first six months of the year the Corsicana-Powell Field produced 637,876 bbls. Of this amount Powell produced approximately 510,000 bbls. In July Powell produced 2,114,460 bbls.; in August, 3,848,893 bbls.; September, 5,277,255 bbls., and October, 7,678,700 bbls., a totnl of 19,429,308 bbls. The total production up to November 15, inclusive was over 24,400,000 bbls.

Average 773 Bbls. per Well

The detailed report of production by company and lease as of Tuesday, November 13, showed 474 wells producing 354,893 bbls., an average of 749 bbls. per day. Of these 15 wells were not producing any oil and may never do so, thus cutting down the number of oil wells to 459 and increasing the average production per well to 773 bbls. a day.

The Atlantic Oil Producing Co. handled 27,000 bbls. of the big production; Cobden Fuel Co., 40,000 bbls.; Gulf Pipe Line Co., 19,700 bbls.; Humble Pipe Line, 108,100 bbls.; Magnolia Petroleum Co., 28,034 bbls.; Prairie Pipe Line Co., 13,700 bbls.; Sinclair Pipe Line Co., 8,500 bbls.; The Texas Co., 36,300 bbls. The Tidal-Buttram Oil Co. ran 4,200 bbls. to storage and the U. S. Tex. Oil Co. handled 2,550 bbls.

The tremendous increase in production from 286,547 bbls. to 354,893 bbls. was occasioned by new gusher wells and the opening wide of all producing wells in the field. It seems that the idea of getting all the production possible while the getting was good occurred to everybody concerned at about the same time, because on last Monday there was a general throwing open of the wells that had been choked in.

The Humble Oil & Refining Co.'s producton shot up from 93,956 bbls. to 120,112 bbls., The Texas Co.-Magnolia Petroleum Co. production was increased from 27,335 bbls. to 38,397 bbls., the Gulf Production Co. increased its output from 28,613 bbls. to 32,647 bbls., the Skelly Oil Co. advanced from 5,357 bbls. to 7,652 bbls. its new well on the Keith farm more than offsetting a sharp decline in the production of its Ramsey lease.

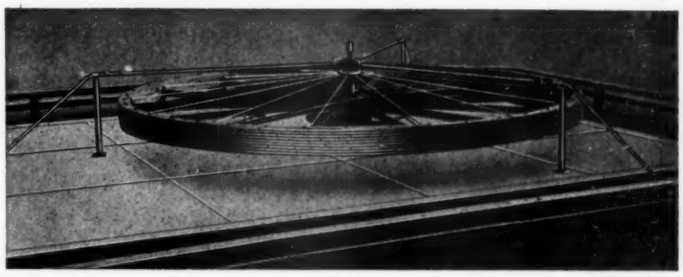
The Texas & Brazos Valley Railroad Co., a new name on the list had a production of 13,970 bbls.

Two days later, or on November 15, the production had fallen to 326,275 bbls., the Humble Oil & Refining Co. being the greatest loser proportionately.

Following are the detailed production figures for November 13 and November 5:

POWELL PRODUCTION BY LEASE AND COMPANY, NOVEMBER 13, 1923

		Init. Prod.	Nov. 13	Nov. 5
Humble Oil & Ref. Co.:				
Blumrosen	4	16,500	460	498
Brown	6	9,280	1,748	1,958
Cerf A	6	24,200	12,020	5,937
Cerf B	1	4,800	4 190	.....
Crews	3	32,500	8,030	9,852
Davis	9	50,300	24,400	18,417
Fleming A	5	33,500	17,275	7,831
Feming B	2	7,300	1,329	2,396
Gentry A	10	24,850	1,485	1,365
Gentry B	3	9,000	680	800
Humphreys	16	43,400	22.630	14,641
Irvine A	5	24,700	279	250
Irvine C	10	36,400	1,270	858
G. Kent	12	45,700	2,733	4,967
R. I. Kent	1	2,000	.....	.....
W. J. McKie A	5	9,400	145	125
W. J. McK.e B	10	14,000	106	265
Murchison	3	4,150	320	715
Ramsey A	8	22,000	6,330	5,940
Ramsey B	10	34,750	8,982	11,850
Walker	6	11,300	6 500	5,291
Total	135	460,030	120,012	93,956
Tidal Oil Co. & Buttram Pet. Corp.:				
Crews	7	67,000	14,865	13,130
Phillips	11	64,200	20,488	25,513
Ramsey A	8	53,000	6,350	4,675
Ramsey B	7	28,900	1,455	840
Thompson	4	4,400	170	133
Total	37	217,500	43,328	44.291
Gulf Prod. Co.:				
Barron	5	17,800	4,925	6,780
Barry	1	300	.....	.....
Blumrosen	3	4,900	177	200
Bush	1	4,000	1,595	2,377
Christian	6	15,400	560	245
Crews	8	62,000	19,600	12,050
Gentry	7	22,200	595	740
Murchison	8	21,100	4,325	5,422
McKie	1	400	160	142
Smith	5	22 650	400	330
Witherspoon	8	24,700	310	327
Total	53	238,678	32,647	28,613
Humphreys Oil Co.:				
Fair	1	1,250	25	25
Kent	8	7,500	610	630
R. I. Kent	3	12,240	90	85
Burke	1	200	.....	5
McKie	55	191,300	12,240	14,875
Kenner	2	900	.....	10
Springfield	2	2,700	.....	10
Total	72	216,090	12,965	15,640
U. S. Tex. Oil Co.:				
Burke	4	6,200	415	431
Ramsey	4	6,800	150	158
Total	8	13,000	565	589
Skelly Oil Co.:				
Gentry	2	800	87	130
Ramsey	3	5 100	2,265	5,227
Keith	1	7,000	5,300	.....
Total	6	12,900	7,652	5,357
Kirby Pet. Co.:				
Fleming	1	12,000	3,600	.....
Brown	6	6,500	550	570
McKie	3	5,800	1,885	1,790
Total	10	24,300	6,035	2,360
McMan Oil Co.:				
Chapman	10	31,750	1,320	1,390
Chapman	5	5.000	825	840
Total	15	36,750	2,145	2,230
Roxana Pet. Corp.:				
Blumrosen	4	4,500	234	265
McKie	8	20,200	400	580
McKie A	8	17,530	4,610	5,100
Total	20	42,230	5,244	5,945
E. L. Smith Oil Co.:				
Keith	2	14,000	16,300	10,336



Durnell Talks On Standardization of Pumping Powers

When our trade demanded a 24-foot Bandwheel power, all that was necessary was to build a 24-foot wheel by making longer spokes and a larger rim. We had already made 24-inch stroke eccentrics which were interchangeable with the 18-inch stroke and the 24-inch were being used on our 20-foot powers, which were pulling loads of wells up to capacity of 50 or 60 horse power Gas Engines. To make a 24-foot wheel did not necessitate larger eccentrics and hubs as they had been tested out for strength and putting on a 24-foot wheel simply gave added leverage to do the work easier and to give added belt contact by use of larger pulleys.

Think it over. All parts of Durnell Underpull are interchangeable from 12 to 24-foot powers. We give you any size powers built to stand any load.

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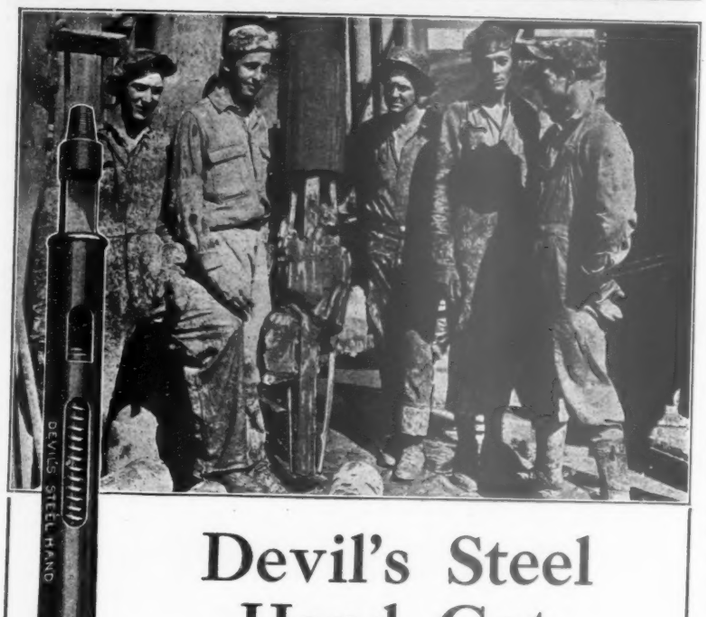

Devil's Steel Hand Got the Slip

After Others Failed

Devil's Steel Hand

R. W. Young, Pan-American Petroleum Co., writes us: "Am pleased to state the following concerning your fishing tool known as the Devil's Steel Hand. After fishing for several weeks and an expense of several thousand dollars for labor and various tools, for a rotary slip that was dropped in our No. 4 well, Signal Hill, we wired to Texas and had the above tool expressed to us.

"With your tool we were successful in fishing out the slip and were very pleased with the result."

Our Devil's Steel Hand will fish 2 feet deep in cavings. Will clean cavings out down to a broken bit or underreamer lug and then get the lug.

Prices: 5 3/16", $265; 6", $285; 8", $310; 10", $350; 12", $430; 15", $490.

Devil's Pitchfork

This tool and our DEVIL'S PITCHFORK are unequalled for fishing small objects. Users regularly report success where other tools have failed.

BROWN WELDING & MACHINE CO.

Main Office and Factory: Breckenridge, Texas

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California Representative: J. F. Larkin, 811 Loews State Bldg, Los Angeles

100

Ramsey	4	22,300	800	1,207
Total	6	36,300	17,100	11,543
The Texas Co.:				
Fleming	11	65,000	34,825	22,115
McKie	8	8,600	460	351
The Texas Co.-Magnolia Pet. Co.:				
Kent	14	52,000	3,112	4,869
Total	33	125,600	38,397	27,335
Atlantic Oil Prod. Co.:				
Irvine	13	40,200	1,708	1,715
Kellum	4	51,000	19,450	20,856
Total	17	91,200	21,158	22,571
Simms Oil Co.:				
Boyd	1	250	110	.....
Blumrosen	2	765	245	167
Rose	1	10,000	3,430	.....
Total	4	11,015	3,785	167
R. E. Brooks:				
Cerf	3	14,560	6,220	5,643
Hughes Dev. Co.:				
McKie	13	29,400	520	550
Hughes Oil Co.:				
McKie	1	75	10	10
Empire Gas & Fuel Co.:				
Sweatman	1	1,750	640	837
Garland Kent:				
Fleming, Kent	3	16,000	8,755	9,550
Mitchell & Jones:				
Burke	2	10,600	640	672
Magnolia Pet. Co.:				
Irvine	1	6,500	.....	.....
New Domain Oil Co.:				
R. F. Kent	5	2,300	350	666
Sun Oil Co.:				
Kent	4	11,700	450	742
Witherspoon Oil Co.:				
Burke	9	20,100	2,730	2,200
Mutual Oil Co.:				
Howell	1	18,000	5,370	4,300
Collins & Wheelock:				
G. Kent	1	750	420	.....
Elliott and others:				
Hill	1	2,500	1,350	.....
Parker and others:				
Cerf	1	2,000	1,200	.....
Texas & Brazos Valley R. R. Co.:				
Right of Way	2	17,500	13,970	.....
Miscellaneous Cos.:				
Springfield and Christian	10	7,000	1,235	780
Grand totl.*	474	1,686,328	354,893	286,547

*Fifteen wells not producing on November 13.

Powell Crude $1 per Bbl.

The Magnolia Petroleum Corp. today posted a price of $1 for Corsicana light crude, which includes Powell, bringing the price back to where it was previous to October 30, on which date the Magnolia dropped the price to 75 cents. The Texas Co. today posted a price for Powell crude, meeting the Magnolia's price of $1. It is the first time The Texas Co. has bought any outside oil. The Humble never met the Magnolia's 25-cent cut, so that any crude it is buying is on a basis of $1 per bbl.

Mexia and Powell Crude Stocks

Stocks of crude oil from the Mexia and the Powell Field on November 1 totaled 24,679,301 bbls. The following table shows the source of the oil as well as the quantity held by the different companies:

Tank Farm Stocks of Mexia and Powell Held on November 1

	Barrels
Atlantic O. P. Co., Mexia	432,512
Atlantic O. P. Co., Powell	528,131
Cobden Fuel Co.	979,509
Galena Signal Oil Co.	49,468
Gulf Pipe Line Co., Mexia	711,306
Gulf Pipe Line Co., Powell	568,631
Humble Pipe Line Co., Mexia	2,747,353
Humble Pipe Line Co., Powell	3,418,464
Humphreys Oil Co.	336,978
Humphreys Pure Oil Co.	3,944,065
Magnolia Pet. Co., Mexia	404,590
Magnolia Pet. Co., Powell	1,350 280
Prairie Oil & Gas Co., Mexia	2,232,289
Prairie Oil & Gas Co., Powell	459,156
Sinclair C. O. P. Co., Mexia	4,566,178
Sinclair C. O. P. Co., Powell	382,981
Simms Oil Co.	710,172
The Texas Co., Mexia	262,322
Tidal-Buttram Oil Co., Powell	456,406
U. S. Tex. Oil Co.	138,510
Total	24,679 301

The Magnolia Petroleum Co. also has 882,312 bbls. of Ranger, Healdton and Corsicana heavy crude and the Humble Pipe Line Co. has 707,798 bbls. of Ranger crude in storage in Mexia.

KEROSENE FEATURE IN GROUP 3 MARKET

(Continued from Page 22)

order out as few shipments as possible on their marginal contracts and buy on the spot market. When the 6.6-cent reduction became effective the situation was reversed and the same jobbers began taking a maximum amount on their marginal contracts. The 2-cent reduction in the Indiana and Nebraska territories on November 10 again made the marginal contracts more attractive than the spot market, as it is estimated that these contracts are now netting the refiner around 4½ cents a gallon.

The eminently fair action of Cosden & Co. simply means that so far as that company is concerned the jobber will reap the benefits of the marginal contract when the price is below the spot market in direct proportion to his action when the situation is reversed and the spot market is below the marginal contract basis. It is obvious that if this action was taken generally it would help to sustain the present spot market on New Navy. Past experience has shown that it is difficult to maintain a spot price in excess of the marginal contract due largely to the fact that refiners in many cases will permit jobbers to order out more material than their contracts call for.

May Curtail Sales

The Cosden action apparently means that the company will withdraw as much as possible from the gasoline market. If such is the case a substantial reduction in runs of the plant is to be expected. The daily runs the first of the month were around 18,000 barrels. It was rumored that the company had sold a large amount of gasoline and that fact accounted for its action in withdrawing from the spot market. This report lacks confirmation and is not generally credited by the trade, which believes that the company has decided to curtail its sales and await more favorable markets.

So far as known, no other company in the Mid-Continent area has taken similar action in regard to the spot market, although approximately the same policy has been followed by a few concerns in regard to the marginal contracts. Many refiners are selling New Navy gasoline to the trade at 6½ to 6¾ cents. Additional refiners have found it necessary to reduce their price to the 6½-cent level and some are quoting 6 cents. Buyers for resale are endeavoring to purchase at 6 cents, but so far as this Group is concerned they have not had much success. Some compromises have been made at 6⅛ cents. Considerable business could be placed at 6 cents but refiners have not found it necessary yet to give the price concession.

The movement of the higher gravities was sluggish during the past week. No large orders were placed and domestic buyers of small shipments were in a position to secure price concessions. There was no change in the Naphtha situation. Refiners which have a high quality product still state they have no difficulty in disposing of their output at prices slightly under New Navy.

Natural Gasolines

The demand for absorption grades of gasoline is better than for casinghead but both were reduced in price during the past week. Manufacturers state that considering the time of year the demand is fair for all grades. The price weakness is caused by the large amounts offered by the plants which either do not have the storage facilities or do not care to fill their tanks at this time.

Fuel and Gas Oils

There was practically no change in fuel and gas oils. Prices are generally firm. A little 24-26 fuel oil has been sold under 70 cents but not enough to constitute a market quotation. Within the State considerable material is moving as high as 80 cents. There is a good demand and prices in Group 3 will probably not go lower unless outside competition makes it necessary. The demand for distillates continues sluggish due to the warm weather. Prices are generally firm.

Road Oils

Beginning with this issue quotations on Mid-Continent road oils will be dropped for a time. There are some inquiries for delivery next year, but there is no consistent market covering this class of business and probably will not be for several weeks. It is known that some of the Standard companies are taking this business but the few independent plants which are manufacturing the product are uncertain as to their crude costs for another year and are not interested at prices offered by the larger competition.

Engineers Propose Creation Petroleum Division A. S. M. E.

The mechanical problems connected with the petroleum industry have attracted the attention of the mechanical engineers throughout the country and acting in line with development in technical work the Mid-Continent section at its recent meeting passed the following resolution:

A resolution to create a new professional division of the American Society of Mechanical Engineers to be known as "The Petroleum Division."

Whereas, The territory covered by the Mid-Continent section of the American Society of Mechanical Engineers includes that portion of the United States wherein the production and refining of petroleum is one of the principal industries, and

Whereas, The majority of the members of the Mid-Continent section of the American Society of Mechanical Engineers and a majority of the prospective members of this society are engaged either directly or indirectly in engineering work pertaining to the petroleum industry, and

Whereas, At this time no professional division devoted especially to considering the problems and development of the petroleum industry exists within the American Society of Mechanical Engineers.

Be It Resolved, That this petition, after being duly signed by members of the Mid-Continent section of the American Society of Mechanical Engineers be forwarded to the national headquarters located in New York City and placed before the officers and council of this society petitioning them to create a professional division to be known and function as the Petroleum Division of the American Society of Mechanical Engineers.

At the annual meeting to be held in New York, December 3, there will be present delegates from all the 56 sections in the United States. The question of standardization of mechanical equipment and methods of operation in the production, transportation and refining of petroleum will then be brought to the attention of the society for the purpose of the establishment of a petroleum division and for the benefit of the industry along mechanical lines.

Merging of Mutual And Continental Cos. Regarded Certainty

The consolidation of the Mutual Oil Co. and the Continental Oil Co., which has been rumored for several weeks, is now an apparent certainty, according to statements made by officials of the companies during the past week. Replying to a query, O. H. Williams, president of the Mutual Oil Co., informed The Oil and Gas Journal on Wednesday that negotiations between the two companies are now under way and stated that they will probably be completed next week.

None of the details of the transaction have been announced. Reports are to the effect that other companies, including the Dixie Oil Co. (Standard Oil Co. of Indiana) and the Sapulpa Refining Co. will be included in the deal. In financial circles the transaction is considered in the nature of a readjustment in ownership of companies already allied or controlled through the Standard Oil Co. of Indiana.

The Continental Oil Co., which was organized in 1913, operates according to latest reports, 473 bulk and 113 service stations in the Rocky Mountain States. The company also owns a refinery at Florence, Colo. It has production interests in the Rocky Mountain region through the Buck Creek Oil Co., United Oil Co., and the Continental Oil Purchasing Co. (formerly the Inland Oil & Refining Co.) The company has an authorized capitalization of $12,000,000 with $10,000,000 outstanding.

The Mutual Oil Co. has refineries at Cowley and Glenrock, Wyo., and Chanute, Kans., with a combined capacity of approximately 16,000 barrels, with grease and compounding plants at Kansas City. The company is largely interested in Wyoming and Mid-Continent production. It operates approximately 400 filling and bulk stations in Colorado, Missouri, Kansas, Nebraska and South Dakota. Companies in which the company is interested include the Boston Wyoming Oil Co., Chapell, Oil Co., Frantz Corp., Hamilton Oil Co., and Merritt Oil Corp. The authorized capitalization of the company is $30,000,000 with slightly more than half outstanding. The company was organized in 1916.

S. O. TIN PLATE CONTRACT

The Standard Oil Co. of New Jersey has placed a contract calling for the delivery of 100,000 boxes of tin plate during the first half of 1924, involving approximately $500,000.

CALIFORNIA FIELDS

(Continued from Page 42)

pounds, is clean and tests 33.3 degrees.

The Standard Oil Co. completed No. 5 Santa Gertrudes as a 1,000-bbl. well early in the week and followed it two days later with a 4,100-bbl. producer in No. 2 Jordan. The former, No. 5 Santa Gertrudes, was completed at 4,725 feet, while No. 2 Jordan picked up the pay at 4,683 feet. Both wells were completed with 4½-inch oil strings landed on bottom, the former flowing through a 1⅛-inch bean under a pressure of 400 pounds, while the latter is flowing through a 1-inch bean under a pressure of 200 pounds. The oil from No. 2 Jordan is clean and tests 33.4 degrees, while the output from No. 5 Santa Gertrudes tests 33.1 degrees and shows a cut of 1 per cent. The Standard also put No. 14 South Whittier Community on a production test but it would not flow and it was found necessary to place it on the pump. This well was finished at 4,665 feet and showed a maximum production of 150 bbls. of 32.8 gravity oil.

The only other completion of importance was the Union Oil Co.'s No. 6 Howard, which was brought in during the latter part of the week flowing 1,200 bbls. a day of clean oil testing 33.2 degrees.

Huntington Beach

The Shell Oil Co. put No. 7 Ashton on a production test after completing it at 4,952 feet but the well, located in the northern part of the field, affected by edgewater, was not a satisfactory completion. It pumped 200 bbls. of fluid per day and since over half of it was water, the company will have to treat it before running it into the pipe line.

Torrance

The largest and most important completion at Torrance was the Federal Drilling Co.'s Heyman, which was completed at 3,517 feet and brought in doing 2,000 bbls. a day.

The Petroleum Midway (California Petroleum) Co.'s first large well at Torrange is No. 1 Wilson, just put on production. Although the company has three other producers in this field they are all small pumpers, varying from 50 to 100 bbls. No. 1 Wilson, the company's latest completion, was finished at 3,759 feet and resulted in a 1,000-bbl. well.

An important deal reported during the week was the leasing by the Associated Oil Co. of an 18-acre tract owned by the Torarnce Development Co., adjoined south by 13 acres recently secured by George F. Getty.

The Union Oil Co.'s discovery well at Compton, No. 1 Callender, continues to do about 1,400 bbls. a day of clean 31.5 gravity oil a day.

Out at Anaheim, the Standard Oil Co.

Safety! in Hazard Wire Lines—an Insurance Against Trouble—in oil well drilling.

Get the best results from Wire Rope by using

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Built strong—well proportioned and equipped with either reversible or one-way clutch and of three-port, two-cycle valveless construction—these engines are guaranteed to give steady, powerful, reliable service under any and all conditions.

Many of our customers who will use no other make tell us these engines pay for themselves over and over because of the constant savings in repairs and lubrication, ease in starting and fewer shut-downs.

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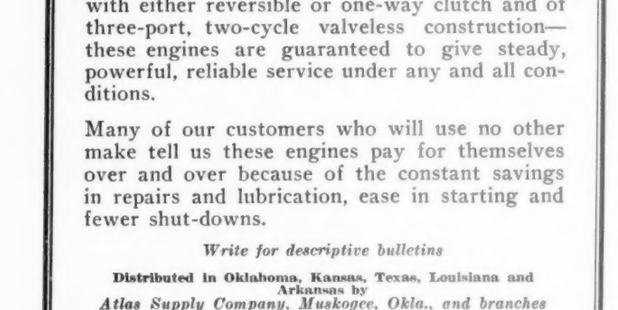


Franklin Valveless Engine Co.
Franklin, Pa.

has reached a depth of 1,790 feet in No. 1 Wagner, the formation at this depth being a hard sand. The Artesia Oil Co.'s test well, being drilled in the vicinity of Artesia, is not looking very encouraging at 4,760 feet and the prospect of securing commercial production is not very favorable. The Beatty Oil Co.'s wildcat, being drilled near Eagle Rock, shows 4,260 feet of hole, which is the result of two years' labor. It is reported that this well has been drilling in a granite formation for some time, which, of course, precludes the possibility of securing commercial production.

The Pan American Petroleum Co.'s El Segundo wildcat has set a string of 10-inch casing at 3,510 feet. The company declines to give out any information on this well, No. 1 Pacific Southwest, and, although it is reported the company has had a showing at this depth it could not be verified. The Dolke-Thomas Syndicate has indefinitely suspended operations on its Coyote Hills wildcat at 4,000 feet and the well will remain idle until the California oil situation improves. The Gulf Pacific Oil Co. was not successful in putting the Mahala Oil Co.'s well No. 1 on production and has given up the attempt. It is reported that the Mahala Oil Co. will again resume operations and attempt to put this Puente Hills wildcat on production.

The Globe Petroleum Co.'s No. 1 Tejon, being drilled up at Comanche Point, a few miles from Wheeler Ridge, is making hole at 2,145 feet in a hard sand. It is reported this well had a fair showing but that it was passed up and drilled through.

There were no completions recorded during the past few weeks in the Wheeler Ridge Field and no new developments of interest except possibly the entrance into the field of the Midlands Oilfield Co., which has erected a rig on Section 22-11-20. The General Petroleum Co.'s No. 1 Hall has passed the 4,000-foot mark and while it has been reported as completed several times, instructions have been issued to abandon it. The Standard Oil, with five producing wells, is the only company to have production and, in addition to these producers, the company is drilling three more varying in depths from 800 to 2,000 feet. One of these drillers, No. 7, now making hole at 1,900 feet, will be carried down as a deep test in an effort to secure deeper production.

CANADIAN FIELDS

(Continued from Page 36)

reached 3,150 feet, but with the approach of colder weather and more difficult drilling conditions it is quite likely that little more may be accomplished at this location until next spring. The gas production will be used to augment the Calgary supply for the winter.

Sweetgrass-Border

In the Sweetwater-Border Field, drilling operations have been largely discontinued for the winter. Canadian Oil & Refining Co. (Rogers-Imperial) Section 29-1-11wd, is still drilling around 1,600 feet, but is making very slow headway. This test has been seriously delayed several times by caving, and it is necessary for the casing to very closely follow the drill. In the Quarantine Reserve area, Township 1-15-4w, some progress has been made with the proposed merger of the various operating companies; but a difficulty seems to be the selection of the test to be completed when the various interests pool their resources. The J. R. Loreman interests are planning a series of tests, likely to be commenced next spring, on holdings south and west of Cardston and Magrath. The Sweetgrass Syndicate of Vancouver, B. C., headed by Maj. Gen. J. Duff Stuart, reports a good commercial production, estimated as high as 1,000 bbls. a day, from its No. 2 Sunburst-Norem, on the Montana side of the boundary.

Ontario Fields

In the Ontario fields, interest now centers in the new Port Alma deep field in Kent County. Glenwood Natural Gas Co. Hugh Shanks, the discovery well, has not yet been cleaned out and tubed, but is waiting for material. There has been considerable caving in the shale formations overlying the Trenton limestones, but despite the resultant blocking of the hole, the well is still flowing by heads, though at longer intervals than at first. On Sunday it flowed about 100 bbls. and on Friday, in half an hour, it flowed about 10 to 150 bbls. It should be good for between 50 and 100 bbls. a day when cleaned out and put on the pump. On the Truckenbrod farm, 3 miles east of the discovery well and 8½ miles east of Port Alma, Union Natural Gas Co. No. 248, deep test, this week got the top of the Trenton limestone at 2,833 feet, or 131 feet lower than in the Glenwood-Shanks. The test is now pulling casing and will rim down preparatory to drilling into the Trenton limestone. Union Natural Gas Co. is moving drilling material and equipment onto the Mancell farm, Tilbury East, for another deep test. This is the old Kerr farm, the location of the discovery well, which opened the old Tilbury oil well about 18 years ago; and is in almost a direct line between the Dover deep field and the Glenwood-Shanks producer.

In Lambton County, High Pressure Oil & Gas Co. No. 2 at Rock Glen, near Arkona, is reported fishing around 2,000 feet.

OIL INDUSTRY LIKES MELLON'S TAX CHANGES

(Continued from Page 24)

enterprises instead of tax exempt securities."

C. C. Herndon, vice president of the Skelly Oil Co. said the adoption of the Mellon suggestions would be a great benefit to oil companies and would permit of expansion plans, and extensive lease exploration in new territory that were to a large extent found to be financially impracticable under the present federal tax system. It had become necessary, he said, to take into consideration the question of taxes, in making any plans for new work on a large scale and frequently such plans were stopped by the insurmountable tax wall. He agreed with Secretary Mellon that to readjust the surtaxes all along the line meant the saving of the productivity of the surtaxes and that the revenue from the reduced rates would soon equal or exceed what would accrue at the present rates because of the encouragement which the changes would give to productive business.

MINNESOTA GASOLINE REPORT

MINNEAPOLIS, Nov. 19.—Retailing of petroleum products in Minnesota is overdone, with too many concerns and a multiplicity of competing stations, for which the public must pay, says N. J. Holmberg, Commissioner of Agriculture, reporting in the State's investigation of gasoline and oil prices. Minnesota's consumption of gasoline in 1922 totaled nearly 144,000,000 gallons, costing the user $36.000,000. About 40,000,000 gallons of kerosene was used at cost of $7,000,000.

Commissioner Holmberg says: "The buying public in Minnesota has it in its power, under existing State cooperative laws, to protect itself against the unbusinesslike and wasteful retail practice in the gas trade."

PLANNING FOR FUTURE

Next Thursday, many readers of The Oil and Gas Journal are going to have a brighter Thanksgiving because they made good use of the Classified Wants Section.

These men know that their fellow readers study the Classified Wants Section with interest.

Prepare for a Merry Christmas. Send your advertisement to The Oil and Gas Journal Classified Wants Section and let it work for you.

OKLAHOMA FIELDS

(Continued from Page 38)

No. 5 Thompson, No. 7 Thompson, No. 8 Thompson. The Danciger Oil & Refining Co. and others had three wells shut down in the S half, Section 15-27-5, as follows: No. 6 Thompson, No. 7 Thompson and No. 8 Thompson.

The Mid-Kansas Oil & Gas Co. had the following wells shut down in the SE quarter of the same section: Nos. 5, 7, 8, 9 and 10 Thompson. The same company has rigs up for Nos. 13, 14, 15 and 16.

The Pure Oil Co.'s No. 3 McCassey, CSL SW SE NE, Section 16-27-5, was shut down at 930 feet. The same company's No. 4 McCassey, NW cor. NE NE, same section, was a rig. The Phillips Petroleum Co.'s No. 1 McCassey, SE cor. SW NE, same section, was a rig. The same company's No. 3 McCassey, NE cor. NW NE, same section, had a rig on the ground. The Skelly Oil Co., Phillips Petroleum Co. & Moore Petroleum Co.'s No. 2 Thompson, CEL NE SE SE, same section, was shut down at 2,030 feet. The same companies' No. 3 Thompson, SE cor. NE SE, same section, was shut down at 2,303 feet.

The Carter Oil Co. has 9 wells shut down in the NE quarter of Section 22-27-5. The Skelly Oil Co. and Phillips Petroleum Co.'s No. 10 E. Thompson, CWL SW SW NW, same section, was shut down at 918 feet. The same companies' No. 5 W. Thompson, SW cor. NW, same section, is a rig; No. 6 W. Thompson, CEL NE SW NW, same section, was shut down at 940 feet.

Around Blackwell, in Kay County, the Otstot Development Co. and others' No. 2 Rohrs, NW cor. SE, Section 3-27-1w, was spudded 60 feet and shut down. The Globe Refining Co. had a rig on the ground for No. 1 Jackey, SE cor. Section 8-27-1w. Hess and Kenard had a rig on the ground for No. 1, NW cor. SE, Section 10-27-1w.

Noble County

In Noble County, the Comar Oil Co.'s No. 3-B Carmichael, NW cor. SW NE, Section 3-24-1w, was cemented and cleaning out on top of the plug at 2,273 feet; No. 6-A Carmichael, CNL NE NE, same section, was bailing mud at 2,161 feet; No. 9-A Carmichael, CNL NW NE, same section, was shut down at 2,226 feet; No. 9-B Carmichael, same location, was cleaning out with production after a show of oil in sand at 1,875-86 feet; No. 13-A Carmichael, CSL SE NE, same section, was fishing for pipe at 2,235 feet; No. 13-B Carmichael, same location, was shut down at 1,810 feet; No. 18-B Carmichael, CSL SW NE NE, same section, was shut down at 1,900 feet; No. 19-B Carmichael, C SE NE, same section, had a show of oil in sand at 1,900-07 feet; No. 21-A Carmichael, C NE, Section 3-24-1w, was good for 84 bbls. after a 20-quart shot in sand at 2,210-40 feet; No. 22 Carmichael, CWL SE NE, same section, was shut down at 734 feet; No. 23-A Carmichael, CSL SE NW NE, same section, was making 19 bbls. after a shot of 20 quarts in sand at 2,075-95 feet; No. 7-A Ruzek, CNL NE SE, same section, was shut down at 2,082 feet; No. 13 Ruzek, C SE SE, same section, was making 42 bbls. after a 40-quart shot in sand at 2,000-16 feet; No. 13-A, same location, was cleaning out without production after a 20-quart shot in sand at 2,092-2,109 feet.

The Prairie Oil & Gas Co.'s No. 7-A Novotny, NE cor. NW SE, Section 10-24-1w, was fishing for tools at 2,275 feet. The Healdton Oil & Gas Co.'s No. 8-A Renee, CNL NE NW, Section 11-24-1w, was fishing for pipe at 2,555 feet; No. 11 Renee, CWL SW NW, same section, was making 250 bbls. naturally from sand at 2,122-47 feet.

The Bu-Vi-Bar Petroleum Corp. had a rig on the ground for No. 1 Sams, NE cor. SW, Section 15-21-2w.

In the Osage, the American Pipe Line Co.'s No. 89, NE cor. SW, Section 30-28-10, was rigged up. The Indian Territory Illuminating Oil Co.'s No. 318, CSL SE, Section 34-29-11, was drilling at 110 feet. The Owen Osage Oil & Gas Co.'s No. 246, CEL SE NW SE, Section 17-29-12, was dry and abandoned at 1,609 feet. The same company's No. 245, C NW Section 29-29-12, was dry and abandoned at 2,143 feet.

The Mutual Oil Co.'s No. 8-D, CWL SW SW, Section 33-24-8, was drilling at 500 feet. Sam Sitrin's No. 21-A, C SW SW, Section 27-25-9, was drilling at 400 feet. Littrel, Clark and others' No. 1, CWL NW NE, Section 21-24-9, was making 10 bbls. after a 180 quart shot in the Bartlesville sand at 2,185-2,232 feet. The Osage-Allegheny's No. 2, NE cor. NW SE, Section 33-25-12, was drilling at 400 feet. The Owen Osage Oil & Gas Co.'s No. 263, CWL NW, Section 17-22-11, had rigging up.

Garfield County

Croxton and others' No. 1 Millard, NW cor. SW, Section 6-23-3w, Garfield County, was dry and abandoned at 3,200 feet. The Champlin Refining Co. and Ferlow's No. 1 Harman, SE cor. Section 11-22-3w, was dry and abandoned at 2,805 feet. The Sinclair Oil & Gas Co.'s No. 23 S. Walker, CEL SE SE, Section 24-22-4w, was making 280 bbls. naturally from sand at 1,505-20 feet.

Martin Fleming's No. 1 Wengert, NW cor. Section 3-22-5w, was drilling at 100 feet. The Margay Oil Co.'s No. 1 Butts, NE cor. SW, Section 2-21-7w, was spudded 10 feet and shut down to finish rigging up. The Jens Marie Oil Co.'s No. 1 Anderka, SW cor. NE SW, Section 7-20-6w, had rigging up.

In Pontotoc County, Hughes and others were building a rig on No. 1, C SW NE, Section 28-4-7. Delaney and Smith were rigging up machine on No. 1, SE cor. SW NW, Section 1-4-8.

In the Graham district, Carter County, rigs are up for the Amster Oil Co.'s No. 3 Jefferson, C NE NW SE, Section 25-2s-3w; Magnolia Petroleum Co.'s No. 1 Bohanan, SE cor. NE, Section 19-1s-3w; same company's No. 5 Lahman, C SW NE NE, Section 25-2s-3w; same company's No. 6 Lahman, C SE NE NE, same section; Twin State Oil Co.'s No. 3 Jefferson, C NW SE NW, same section.

The Cotton Belt Petroleum Co.'s No. 5 Airington, C NW NE SW, Section 30-2s-2w, made an initial production of 268 bbls. from sand at 2,203-32 feet. The Patsy Oil Co.'s No. 6 Hicks-Palmer, C SE NE NE, Section 6-3s-2w, was flowing 200 bbls. and drilling at 2,974 feet. The same company's No. 9 Hicks-Palmer, C NW NE NE, same section, was a rig.

The Old Colony Oil Co.'s No. 5 Rockwood, NE cor. SW SW, Section 20-1s-8w, Stephens County, made a showing for 3,000,000 feet of gas from sand at 1,832-40 feet.

READY FOR BUSINESS

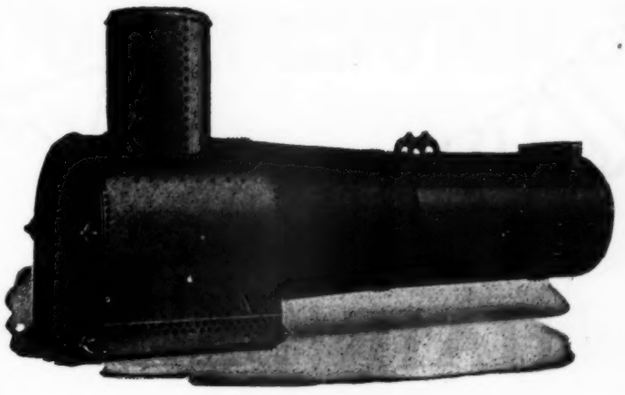
If your offering is good the readers of The Oil and Gas Journal are interested in it. They are always in the market for any attractive deal.

The readers of The Oil and Gas Journal are of the highest type. They are the real men of the industry and of that class which has not only the inclination, but also the means to secure what they want.

These men read the Classified Wants Section with interest. If you had your advertisement in the Classified Wants Section it would receive the same respectful consideration that thousands are giving the good advertisements already there.

SUBLEASE TEXAS ACREAGE

OKLAHOMA CITY, Okla., Nov. 19.—The Grubstake Investment Association of Kansas City, a pioneer operator in the gas belt of McMullen County, Texas, has subleased a 38-acre tract containing two wells to Lynn Glover and John K. Davis, Jr., who are to complete development. These wells are making oil as well as gas and the lessees contracted to pay $25,000 in cash, which is to be returned to them from the sale of oil on the basis of 80 cents a barrel.



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Oil Country Boilers

The same high grade materials and the same excellent workmanship that have made it possible for Kewanee Steel Boilers to be leaders in the field for the past 35 years, go into every Kewanee Oil Country Boiler.

They are constructed of steel, firmly riveted and caulked and are built according to the code for building adopted by the American Society of Mechanical Engineers, which code is now required in the State of Oklahoma. Every Kewanee Boiler will produce all that its rated capacity calls for. You are not experimenting when you use Kewanee but are buying a boiler that has been produced after all of these years of continuous building.

Hundreds of these boilers are and have been in use in the oil fields and have given the owners excellent service.

KEWANEE BOILER COMPANY
KEWANEE, ILLINOIS
Makers of Steel Boilers, Steel Tanks, Water Heating, Garbage Burners, Tobacco Water Heaters
Sold by International Supply Co., Tulsa

In a class by itself

"IWANA"

HAIR BELT

For drilling or pumping "IWANA" is in a class by itself. It is the best belt money can buy. Made by men who know the belting problems in every oil field in the world. Consult our belting engineers—let them prove to your satisfaction that "IWANA" belts can solve your belting problems, no matter how difficult.

FOR PUMPING

Light Double—
⅛-in. thick.
Or
Heavy Double—
⅜-in. thick, depending whether light or heavy duty.

FOR DRILLING

Always Use
⅜-inch
Heavy Double.

"Make a Test and Know the Best"

If you want to save worry and money use "IWANA" Hair Belting

"IWANA" HAIR BELTING will easily OUTLAST any other belt on the market. We manufacture them from the BEST raw material on the market and give every belt personal inspection before we send it out—we know they are perfect before leaving our plant. If you want to save WORRY and MONEY use "IWANA" Hair Belting

TULSA REPRESENTATIVE
A. F. CAMPBELL, P. O. Box 171

FENWICK-REDDAWAY MFG. CO.

CAMEL'S HAIR, COTTON AND LINEN PRODUCTS

Office and Factory: NEWARK, N. J.

NATURAL GASOLINE MEN IN CONVENTION

(Continued from Page 23)

too," said Mr. Bourque, declaring that reliable figures at hand during such dealings made for hasty disposal of the problems.

While the conference was primarily a conference for the whole of the Mid-Continent group most of those present were from North Texas and various points in Oklahoma. Louisiana was well represented but there were few representatives from the Gulf Coast district.

Some members of the Executive Committee of the Texas-Louisiana Division of the Mid-Continent Oil and Gas Association were present at the closing session. These committeemen were in Fort Worth at the time attending a meeting of the Executive Committee.

BLEND NAPHTHA INTO COMMERCIAL GASOLINE

(Continued from Page 90)

compressed air, the natural gasoline is blown into eight or ten cars of naphtha at the same time. The natural gasoline line goes over the top, through the manhole to the bottom of the tank car, on the bottom of which is a small T. We find that in blending this way there is a minimum amount of agitation in the fluid and very good results are obtained.

Immediately after blending a sample is procured and the tank car is sealed. The motion of the tank car traveling to destination, insures a uniform mixture throughout the car. We have never blended in any of our storage tanks, which would cause a second handling of the product, thereby increasing the evaporation losses.

I had the pleasure some time ago of inspecting a California refinery and their method of blending naphtha with natural gasoline was very much the same as a tret-o-lite plant. A 2-inch perforated pipe was placed within a 4-inch line, the natural gasoline flowing in through the 2-inch line and naphtha through the 4-inch line. I understood from the superintendent that this method was very satisfactory, but upon investigation I found their evaporation losses were higher than at our own plant.

Refining Loss

It is the custom with some plants, who own natural gasoline plants, at the field terminus of their pipe lines, to mix the natural gasoline with the crude and refine the mixture at their refineries. One local refinery has found this to be a very expensive way of handling natural gasoline, their refining losses for one month running as high as 7 per cent. Whenever our refining loss exceeded 2 per cent there is an immediate investigation.

As heretofore referred to, one of the problems confronting the entire industry is the evaporation losses, especially those interested in light crude and the light oil products. The following shows our experience in evaporation losses through the use of natural gasoline for the past several months.

Month—	Natural Gasoline Used	Evap. Loss	Pctage.
January	4,811	301	6.26
February	3,956	369	9.33
March	1,249	133	10.65
April	1,925	191	9.92
May	4,068	392	9.64
June	2,666	296	11.10
July	2,660	223	8.38
August	2,676	262	9.78
September	5,912	555	9.39
October	7,000	695	9.93

Percentage Used

The percentage of natural gasoline used in blending depends entirely upon the crude that is being refined. Our Bull Bayou crude produces a naphtha which requires approximately 20 per cent of natural gasoline to make a commercial gasoline, which will meet all New Navy specifications with the exception of intermediate points, while the naphtha produced from our El Dorado crude requires only 5 per cent of natural gasoline to meet New Navy specifications. The following is a copy of results obtained from the blending of Bull Bayou naphtha:

NATURAL GASOLINE REPORT

No. 1, Car CNX, Gravity 87, No. 582, Initial Boiling Point 70, End Point 343, 8,074 Gallons

Car. No.	Naphtha Gravity	Specification I. B. P.	Specification E. P.	Gallons Naphtha	N. G. Gal.	Grav.	Final I. B. P.	Final E. P.
410	52.5	234	440	6614	1460	58.8	122	417
491	52.5	234	440	6614	1460	58.5	114	440
505	52.5	234	440	6614	1460	58.9	116	438
361	53.7	200	437	6614	1460	59.5	112	424
360	53.7	200	437	6614	1460	59.0	116	440
				Total	7300			
				Loss	770			

You will note from the above report that in each instance a very satisfactory initial boiling point was obtained, the gravity was made 58-60, while end points fluctuated from 3 degrees below the original end point to 3 degrees higher and also shows that the naphtha of the same specification blended with the natural gasoline of the same specification in like proportions do not give the same results. The reason for this we have never been able to determine, unless the light and heavy ends of the naphtha in the storage tank have a tendency to separate into strata and do not become thoroughly mixed when pumping from the storage tank to tank car.

STATISTICS NOW BIG FACTOR IN SUCCESS

(Continued from Page 90)

and intelligent distribution will result. A study of production and consumption figures will also enable producers and distributors to determine when the point of saturation has been reached in given territories and then instead of a continued over supply in those territories new markets will be sought for the surplus.

The Saturation Point

Much has been said about the saturation point in business. There is such a saturation point in our industry. Last year the natural gasoline gallonage was about 10 per cent of the total amount of gasoline of all grades manufetured, but this year the percentage will be considerably higher. There is no doubt but the natural gasoline industry is nearing the danger mark in the matter of production unless the demand should increase in proportion to the advance in production, a condition which does not at this time appear to be probable.

When that time is reached, as it is in every line of business, plants now in operation or building will be ample to take care of the demand. Production beyond that point means cut-throat competition and then it will be a survival of the fittest. Companies with ample capital and experience in the business will hold their own; it is the less favored manufacturer that will suffer.

This must not be construed to mean that no one should go into the natural gasoline business who is not already manufacturing the product; nor does it mean that there should be no expansion on the part of anyone now in the business. It is only used to emphasize the value of statistics. And if data on that particular phase of the industry were available for general distribution there is no doubt but the study of same could not have aught but a beneficial effect on the industry.

TRADE ASSOCIATIONS ARE AID TO INDUSTRY

(Continued from Page 23)

The history of the legitimately formed and conducted association is, to use the words of Secretary of Commerce Hoover, "that it has contributed greatly to the improvement of business morals and practices, has cheapened production and distribution processes, has improved working conditions, has, by the statistics, it publishes of production and distribution, enabled the whole commercial public to form safer judgment of its future policies. It has even contributed to the advancement of our foreign commerce and generally has interested itself in our economic welfare." He admonishes us that these services should be preserved and even better organized.

Association Now Necessity

The trade association is recognized as a necessity in modern industry. The prevention of business anarchy lies in some such cooperation. No one can successfully question either the legality or the beneficial results both to the general public and to the members of an industry flowing through a trade association, assembling, compiling in a condensed form, and promulgating data dealing with and recording actual facts affecting the industry, stripped, of course, of all expression of opinion or prophesy; from measures taken by such associations toward the adoption of uniform terms, specifications, standardization of equipment, material and processes and from numerous other services such as an association may render in matters affecting the common interest of its members as a whole. The laws of the land prohibit, and wisely so, any agreement or understanding, expressed or implied, looking either to direct fixing or influencing prices, or to fixing or regulating the volume of production so as to affect prices or to the apportionment of territory between its members, or to curtailing or restricting free competition and all wisely conducted associations will scrupulously avoid activities in these directions. The entire field of common effort is left, however, and it is here that the association of tomorrow will find its greatest service.

I point out here two cardinal legitimate functions of trade associations both of which are progressive.

First—Improve and perfect the processes of manufacture and production, eliminate waste and utilize the by-products.

Second—Understand and improve the present market, study and develop new markets and keep abreast of changing market demands.

BRING FORTH THE BULL

D. E. BUCHANAN

President Association of Natural Gasoline Manufacturers at Fall Conference in Ft. Worth

COASTAL LUBRICANTS IN DEMAND FOR WINTER

HOUSTON, Tex., Nov. 19.—The market on lubricants from Coastal crudes went through an uneventful week the past seven days, prices being steady and the demand normal with past movement. The only evidence of abnormal condition was the activity of jobbers in assuring sources of supply for the winter months. Even where contracts are held with refiners in the section, jobber customers are keeping in close touch with source of supply and prevailing upon refiners to make prompt shipments of oils that meet all specifications.

Jobbers displaying such concern over their supply are sure of the condition in the Coastal area, where refiners are dealing among themselves in order to make prompt shipments. Such tactics are a further evidence of the fact that the jobbers are anxious to have zero cold test oils. They are using every means to keep refiners up to the minute on shipments, knowing some oils are passing between refiners.

This method of trading does not seem as general as it was three weeks back. In some instances refiners are declining to give up any of the winter grades of lubricants to fellow refiners. The buying among manufacturers is, in most instances, done by concerns with a demand in excess of supply and those with sufficient stocks to allow sales locally.

The peculiar part of the local trading situation is that the refiners are able to get oils in the Houston trade territory at prices which allow a profit in selling to customers. That condition of the market is further brought out by statements on the one hand that the market is strong with prices at the top and on the other hand statements that the demand is sluggish with prices weak. Furthermore, representatives of each statement can show orders to prove their words.

But the majority vote comes on the side of the strong market. And that is the further evidence of jobbers, who are anxious to hold connections with refiners of zero cold test oils.

Oils of the 200 viscosity grade are in the keenest demand at present. Both the filtered and unfiltered products are moving as fast as completed in the Houston area. Some refiners are experimenting with combinations of lighter oils with those of summer grade in an effort to give immediate shipment on orders.

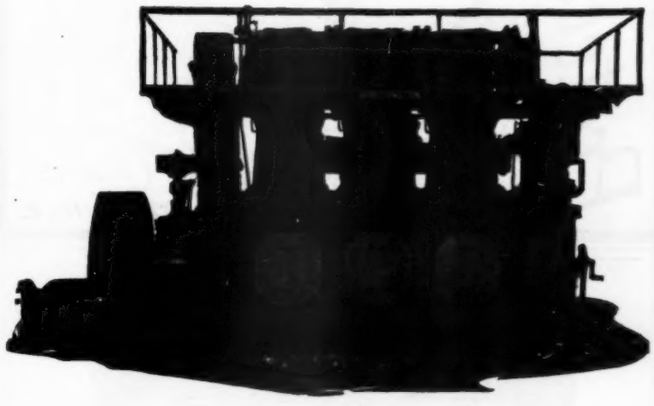
Fuel oil continues steady, with prices unchanged. The fact that the grade B of Coastal crude, used chiefly for its fuel, is selling at 75 cents a barrel, is considered the check on the fuel oil market in South Texas. Gas oil is slightly lower in price. But its movement is better than last month.

DR. COOK FOUND GUILTY

FORT WORTH, Tex., Nov. 21.—The Dr. Frederick A. Cook jury at 2:10 o'clock this afternoon returned a verdict of guilty on 12 counts; defendants, T. O. Turner, L. A. McKercher, Fred K. Smith, R. S. Henninger, W. P. Welty, R. L. Maxwell, W. L. Braddish, E. J. Bowen, C. W. Steele and Arthur R. Eckman, guilty on 12 counts; S. W. J. Cox, guilty on 8 counts, not guilty on 4 counts. A. M. Delcambre was declared not guilty and freed of all prosecution.

WORTHINGTON

The Worthington Vertical Four Cycle Guided Piston Diesel Engine



Single-piece frame, giving greatest strength with minimum weight.
Most complete lubricating system of any engine ever built. Every moving part oiled by force feed system.
Guided piston with novel scraping device to keep crank case oil clean and prevent piston slap.
Oil cooled pistons—no water can reach crank case oil.
All bearings unusually large. Low bearing pressures.
One outboard bearing carried in main frame.
One lever controls entire engine—start, run and stop.
Inlet and exhaust valves alike and interchangeable.
Any valve can be removed without disturbing other valves or interfering with adjustment.
Starting mechanism interlocked with fuel pump so that starting air and fuel cannot enter power cylinders together.
Gear train for operating cam shaft.
No high pressure joints have gaskets.

WORTHINGTON PUMP AND MACHINERY CORPORATION
Executive Offices: 115 Broadway, New York City
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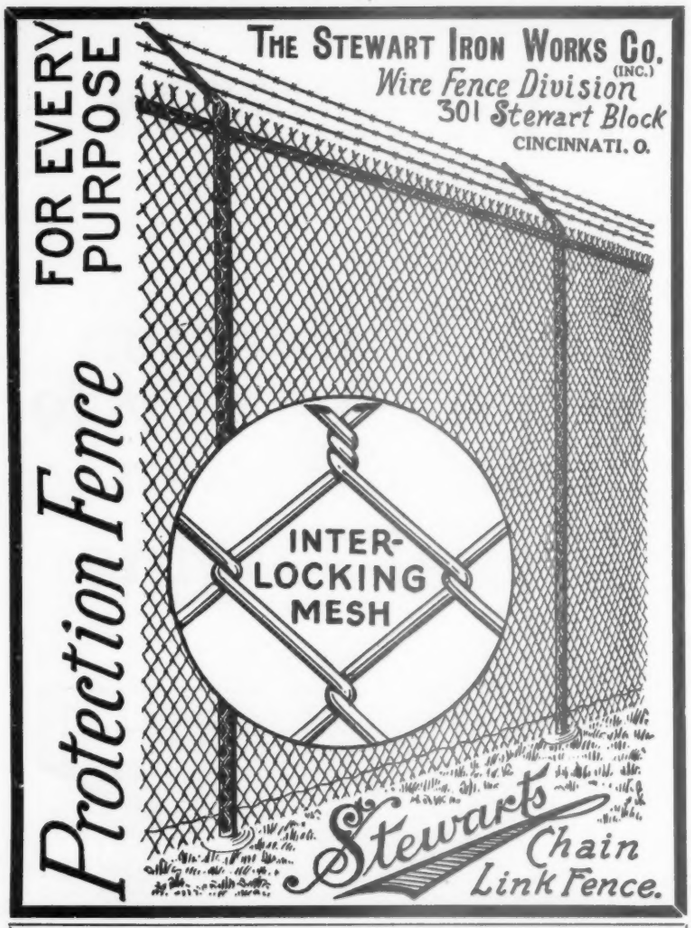

Tycos Flash and Fire Testing Cups

For Illuminating Oils—

Open Fire-tester
Elliott Closed Cup
Foster Closed Tester
Abel-Pensky Closed Cup
Abel Closed Oil Tester

For Lubricating and Fuel Oils—

Pensky Martin Closed Cup
Cleveland Open-Cup Tester
Engler's Viscosimeter
Redwood's Viscosimeter

Other *Tycos* Laboratory Instruments are: *Tycos* Distillation Apparatus, Stop Watches, Engraved Testing Thermometers.

Send $1.00 for *Tycos* Mineral-Oil Tables. Write for Catalog Part 1700, showing complete line of *Tycos* Temperature Instruments for Indicating, Record.ng, or Controlling temperature in the oil industry.

Taylor Instrument Companies
Rochester, N. Y., U. S. A.
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There's a *Tycos* or *Taylor* Temperature Instrument for every purpose.

PRELIMINARY PROGRAM ANNOUNCED FOR A. P. I. MEETING IN ST. LOUIS

The American Petroleum Institute announces the preliminary program for its Fourth Annual Meeting, to be held at the Statler Hotel, St. Louis, Mo., December 11, 12 and 13, 1923, and the group sessions in connection therewith, as follows:

TUESDAY, DECEMBER 11, 1923

10:30 A. M.

Meeting Board of Councillors (Ball Room.)
(Executive session to nominate directors.)

2:30 P. M.

General Session (Ball Room.)
The President's Address: Thomas A. O'Donnell.
"The Utilization of Petroleum Products," Henry L. Doherty, President, Henry L. Doherty & Co.

8:00 P. M.

General Session (Ball Room.)
"Agriculture, the Farm and Its Relation to the Oil Industry," E. T. Meredith, Publisher, "Successful Farming," former Secretary of Agriculture.
"The Oil Industry and the Public," Paul Shoup, President, Pacific Oil Co.
"The Use and Value of Oil Under Boilers and in Diesel Engines for Ship Propulsion." (Speaker to be announced.)

WEDNESDAY, DECEMBER 12, 1923

Important Note—The only general session on this day will be in the evening at 8 o'clock. The entire day will be devoted to group sessions, at which various subjects given below will first be treated in a prepared address by a selected speaker. After each speech, the meeting will be thrown open for general discussion and consideration of the subject.

10:00 A. M.

Ball Room, Group Session No. 1.
General Topic: "The Utilization of Petroleum and Its Products."
"The Burning of Fuel Oil in Railroad Locomotives," J. M. Johnston, Fuel Agent, M. K. & T. Railroad.
"The Use of Petroleum and Its Products for Road Construction," J. E. Pennybacker, Secretary, The Asphalt Association.
"The Heating of Houses With Oil," W. M. Horner, representing the American Association of Oil Burner Manufacturers.

10:00 A. M.

Seventeenth Floor, Group Session No. 2.
General Topic: "Standardization, Simplification and Improvement of Oil Drilling Methods and Equipment."
"The Study of Oil Field Working Conditions by the Bureau of Mines," F. B. Foley, United States Bureau of Mines.
"The Analysis of Steel for Oil Well Casing." (Speaker representing the A. S. T. M., to be announced.)
"Standardization of Boilers," Committee Report by A. B. Steen (The Texas Co.), Chairman.
"Standardization of Rotary Tool Joints," Committee Report by S. A. Guiberson, Jr. (The Guiberson Corp.), Chairman.

10:00 A. M.

Assembly Room, Group Session No. 3.
General Topic: "The Automotive Fuel Problem."
"The Fuel Problem from the Standpoint of the Automotive Industry," (Speaker to be announced.)
"What Is Good Gasoline?—The Progress of Cooperative Fuel Tests," Dr. G. K. Burgess, Director of the United States Bureau of Standards.

2:30 P. M.

Group Sessions

Ball Room, Group Session No. 1.
General Topic: "The Utilization of Petroleum and Its Products."
"What the Oil Burner and the Oil Industries Can Do for Each Other and for the Public," J. Parker B. Fiske, President, New England Oil Heating Association, and Guy I. Sweeney, President, Sweney Gasoline & Oil Co.

2:30 P. M.

Seventeenth Floor, Group Session No. 2.
General Topic: "Standardization, Simplification and Improvement of Oil Drilling Methods and Equipment."
"The Use of Electricity in the Oil Fields," W. G. Taylor, Engineer, Power Mining Engineering Department, General Electric Co.
"Standardization of Belting," Committee Report by R. D. Gwynne (Gypsy Oil Co.), Chairman.
"Standardization of Cable Tools," Committee Report by J. Grant Hubley (Oil Well Supply Co.), Chairman.
"Standardization of Rig Irons," Committee Report by H. J. Lockhart (Parkersburk Rig & Reel Co.), Chairman.
"Standardization of Rotary Drilling Equipment (except Casing and Tool Joints), Committee Report by J. F. Lucey (Lucey Manufacturing Corp.) Chairman.

2:30 P. M.

Assembly Room, Group Session No. 3.
General Topic: "The Automotive Fuel Problem."
"The Service Tests of Lubricants in Automotive Engines," W. S. James, United States Bureau of Standards.
"The Progress of Anti-Knock Fuels," Thomas Midgley, Jr., Chief Engineer, Fuel Section, General Motors Research Corp.

8:00 P. M.

General Session (Ball Room.)
"The Protection of the Good Will of the Oil Industry," Lou E. Holland, President, Associated Advertising Clubs of the World.
"What the Automotive and Oil Industry Can Do for Each Other," H. L. Horning, President, Waukesha Motor Co., representing the Society of Automotive Engineers.
"European Conditions and Outlook," Edward Prizer, President, Vacuum Oil Co.

THURSDAY, DECEMBER 13, 1923

Important Note—The entire morning of this day will be devoted to group sessions, at which various subjects given below will first be treated in a prepared

address by a selected speaker. After each speech, the meeting will be thrown open for general discussion and consideration of the subject.

10:00 A. M.

Ball Room, Group Session No. 1.

General Topic: "The Utilization of Petroleum and Its Products."

"What the Oil Burner and the Oil Industries Can Do for Each Other and for the Public. (Continuation of the general discussion.)

Important Note—After the reading and discussion of the papers on the subject of oil heating have been completed, the group session is requested to make recommendations as to how proper cooperative relationships shall be created between the oil burner and oil industries. A summary of the suggested problems which may properly be the subject matter of cooperation will be available at the session.

10:00 A. M.

Seventeenth Floor, Group Session No. 2.

General Topic: "Standardization, Simplification and Improvement of Oil Drilling Methods and Equipment."

"Standardization of Specifications for Steel and Iron Pipe for Oil Country Tubular Goods," Committee Report by J. Edgar Pew (Sun Oil Co.), Chairman.

"Standard Size of Derricks." (Speaker to be announced.)

"Standardization of Wire Rope and Manila Cables." (Speaker to be announced.)

10:00 A. M.

Assembly Room, Group Session No. 3.

General Topic: "The Transportation of Oil."

"Problems of Pipe Line Transportation," D. S. Bushnell, President, Buckeye Pipe Line Co.

"Oil Marine Transportation." (Speaker to be announced.)

"Cooperatively Developing Regulations for the Safe Transportation of Petroleum Products by Railroad," Colonel B. W. Dunn, Chief Inspector, Bureau of Explosives.

12:30 Noon

Meeting of Board of Directors (Luncheon in Daniel Boone Room.)

Election of officers of the Institute and transaction of such other business as may come before the Board.

2:30 P. M.

General Session (Ball Room.)

"The Need for Harmonious Industrial Relations," L. V. Nicholas, President, National Petroleum Marketers' Association .

"The Refiner's Problem in 1923," George N. Moore, President, Western Petroleum Refiners' Association.

"The Hazards of Finding and Producing Crude Oil," E. W. Marland, President, Marland Oil Co.

8:00 P. M.

Annual Dinner (Ball Room.)

Toastmaster: (To be announced.)

Speakers: C. F. Kettering, Research Engineer, General Motors Research Corp.; Julius H. Barnes, President, Chamber of Commerce of the United States; A. C. Bedford, Chairman of the Board of Directors, Standard Oil Company (New Jersey.)

ANNUAL DINNER TICKETS

Persons desiring tickets for the Annual Dinner, Thursday evening December 13, are requested to make reservations promptly, accompanying request for reservation with check for $6 for each place desired. If more than one ticket is reserved, please send name or names of all persons in order to avoid duplicating reservations and to insure proper seating arrangements.

NORTH TEXAS MARKET WEAKER IN SYMPATHY

FORT WORTH, Tex., Nov. 19.—In sympathy with lower markets in other competitive fields, the North Texas New Navy gasoline prices have been correspondingly lower the past week, present quotations being 6 cents, with a few quotations at 6¼ cents. The general tone of the market is soft with prospects of still lower prices in the immediate future. The demand is normal for this season of the year and the refineries are generally able to dispose of their daily runs on the spot market; very little future business being in evidence. More attention is still being paid to the higher gravities of gasoline, consequently stocks of New Navy are comparatively small.

Due to a falling off in export orders the 62 and 64 gravities of gasoline are somewhat sluggish, prices being a half to three-quarters of a cent lower than the corresponding week.

Kerosene has been very active during the past 10 days and is extremely scarce now at prices less than 4¼ cents. However, a number of plants report being practically caught up with present orders, and unless an increased demand materializes in the immediate future, indications are that kerosene prices will soon again resume their former level of 3¾ to 4 cents.

The demand for natural gasoline is still sluggish with prices continuing a downward course, the various grades being generally half to three-quarters of a cent lower compared to the previous week.

There has been very little change in the gas oil situation, 32/36 gravity being quoted at 2¼ to 2½ cents, with small stocks on hand; 38/40 gravity is scarce at 2¾ to 3 cents, very little of this grade being manufactured by the North Texas refineries.

Stocks of fuel oil continue to increase despite the energetic efforts of the refineries to dispose of this fuel at further concessions in price, the general marketing being 65 to 70 cents. Now large contracts of any kind have been in evidence, most sales being made in small lots, with a very little movement as a whole.

CYLINDER STOCKS ARE STRONGER AT OIL CITY

OIL CITY, Pa., Nov. 19.—Contrary to the general rule the Northwestern Pennsylvania refined market failed to show much change following the general reduction in the prices of crude oil during the week. The most remarkable thing about the market is that cylinder stocks are stronger and there seems to be a better demand for them, which has resulted in higher prices.

Kerosene has shown distinct weakness during the week. Gasoline is also softer. Gasoline consumption is less throughout the East and no one seems to be willing to pay the prices which the refiners of this district are asking at the present time. Naphthas, neutrals, wax and fuel oil have not changed to any material extent during the week.

WELL LOCATED

The Oil and Gas Journal is edited and printed in its own publishing plant at Tulsa, Okla. Being published in the heart of the industry gives to The Oil and Gas Journal a scope which is accurate and up to date.

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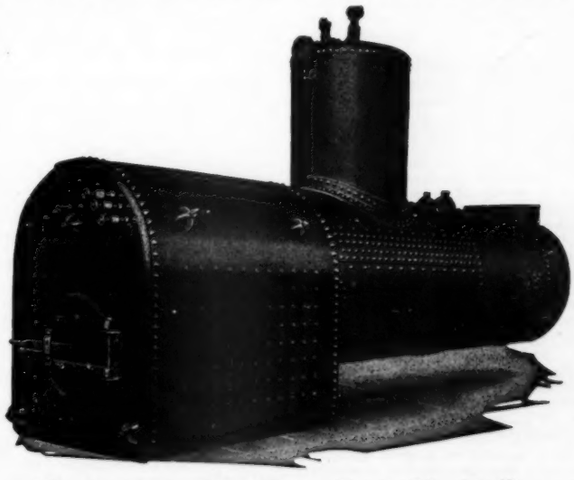

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COPY must be in our office Friday prior to date of issue. Average 6 words to the line. Cash in advance

LEASES—PRODUCTION

FOR SALE—At bargain prices, oil and gas leases, production and royalties in the Kentucky shallow fields. For full particulars and maps, address W. P. Harley, Bowling Green, Ky.

OWN FOUR 160-acre tracts, alternate sections, central Oklahoma. Made investment after careful study. Activity in counties on three sides. Will sell only in forties, retaining half entire. Several tests starting. Offered at $4 per acre, immediate sale. Address John J. Dillon, P. O. Box 194, Denver, Colo.

I HAVE wildcat acreage for sale in vicinity of well located by the same geologist who discovered the Sayre oil field and recommended by him to be as safe an investment as the Sayre Field. I can sell for $2 per acre and up. Dr. W. R. German, Canadian, Texas.

$1.00 PER ACRE for 1,000 or 5,000 acres in the Panhandle of Texas on surveyed structure. Well drilling to prove this territory. No rental due till 1926. A snap for someone. If interested, write and will forward printed geologist's report and map. 300 Alworth Bldg., Duluth, Minn.

FREE ON REQUEST—Map of Allen County, Kentucky, showing pools. Greatest shallow oil field in the world. Production on pipe line and leases with wells equipped and unequipped, near pipe line. Splendid opportunity for oil companies or syndicating. Brokers and promoters protected. Lock Box 4, Scottsville, Ky.

POTTAWATOMIE COUNTY leases and royalties. B. H. Rowlett, Tecumseh, Okla.

FIVE CENTS AN ACRE CASH—Texas school land for sale by State; $2 per acre, one-fourtieth cash, balance 40 years. Send 6c postage for further information. Investor Pub. Co., Dept. 8, San Antonio, Tex.

OWN SIXTY and forty-acre tracts, Archer County, Texas, southeast Archer City. Will sell half $6 per acre, immediate sale. Owner, P. O. Box 194, Denver, Colo.

OIL PROPERTIES WANTED

Have immediate purchaser for vast properties composed of complete and well diversified oil interests. Holdings should also contain defined reserves for development in addition to extensive production throughout the principal fields.

Have immediate purchaser for large property or group of properties. Holdings should contain acreage for drilling in addition to large production.

Also have purchasers for either large or small properties, should contain acreage for drilling in addition to production.

Negotiations confidential. Karl F. Divener, 950 W. North Ave., Pittsburgh, Pa.

FOR SALE—5,000 acres 10-year leases in new Clay County, Tennessee, oil field within 3 miles of gusher. Price reasonable. Call or write R. H. Little, Box 88, Camden, Ark.

I AM STARTING well on a block of 2,180 acres, located on a good anticline in Oklahoma, that has had five producing wells already drilled on it. Am selling undivided interests in the whole acreage with one well completed. A 1/100 undivided interest, $200. Other interests same proportion. To interested parties will send complete geological report, with structural map, cross sections and full details on receipt of $2, which will be refunded to all purchasers. This is a strictly business deal, not a wildcat promotion; and you may put your money in the bank in escrow until well is completed. Address J. C. Stull, Hotel Brady, Tulsa, Okla.

FOR SALE in fee, 766 acres between West Columbia and Damon Mound, both faults connecting these fields cross this land; it is within 4 miles of production in either field. Good farming land. Owner non-resident. Price $50,000, half cash. Box 961, Houston, Tex.

LEASES—PRODUCTION

160 ACRES, Panhandle, Texas, near Oklahoma border activity. Sell two forties, $3 per acre, if quick sale. Owner, P. O. Box 194, Denver, Colo.

TEXAS OIL LEASES in eight active counties along the Balcones Fault, in any size tracts you wish. All my leases are purchased direct from the owners; perfect titles; write for price list. Frank Mashek, 2317 Crawford St., Houston, Texas.

Answer the 1924 Red Cross Roll Call.

SPLENDID oil prospect of 185 acres, touching an undrilled dome on the same fault as Humble, which produced 90,000,000 barrels of oil. Rich river-bottom land. $60 per acre, fee. Hiland P. Lockwood, Rice Hotel, Houston, Texas.

FOR LEASE—40 acres Pushmataha County land, close to drilling. G. H. Williams, 1613½ North Mariposa, Los Angeles, Calif.

FOR OIL and gas leases on school land in the famous San Juan Basin, New Mexico, priced right, address P. O. Box 366, Farmington, N. M.

FOR SALE—320 acres, Section 33, north of range 1, I W. Township 33, Toole County, Montana, in oil district. C. Gooding, 14 S. 7th St., Kansas City, Kan.

Answer the 1924 Red Cross Roll Call.

OIL LEASES of any size from 20 acres and up in the vicinity of two wells that are being drilled near Chandler, Tex. Also leases in Smith County, Texas. Buy now while prices are reasonable on leases in East Texas and don't wait until they strike oil here and then have regrets. R. R. Yoe, P. O. Box No. 291, Tyler, Tex.

NEED TAX MONEY—New five-year leases, McClain County, Oklahoma, direct land owner, 50c bonus. Box 458, Purcell, Okla.

82½ ACRES, Baylor County, Texas, adjoins large acreage held by The Texas Co. Will sell half $3 per acre if taken soon. Owner, P. O. Box 194, Denver, Colo.

HAVE several thousand acres under lease in best geological structure in New Mexico. Will let drilling contract on royalty or acreage. Address Drawer 188-E, Las Vegas, N. M.

30,000 ACRES leases blocked 95 per cent solid in central part of Monroe County, Alabama. Geological report favorable for presence of gas and petroleum. Would be glad to hear from anyone interested in development of a wildcat proposition of this kind. G. L. Nettles, Tunnel Springs, Ala.

GROUND FLOOR OIL DEAL—Kentucky deal. Three sands under 700 feet. Lasts lifetime. High grade; two prices. "Poor man's paradise." Surrounded all sides. Want drill two wells per month. Right party can get in on ground floor. Bank reference given and required. T.—811 First Natl. Bank Bldg., Wichita, Kans.

FOR LEASE—North half of 19-21-6, Pawnee County, Oklahoma, on royalty or working interest. C. H. Hilsinger, Norton, Kans.

SACRIFICE 25 ACRES of as fine irrigated land to be had in the Rio Grande Valley; will raise any kind of citrus fruit; all in cultivation; has small house and other outbuildings. This winter's crop should pay for the place, $7,500; terms to suit. Corey, 401 Ninth St., Brownsville, Tex.

WEWOKA AND SEMINOLE County leases and royalties for sale. Close to production and in territory which is bound to get big play. Write Box 804, care The Oil and Gas Journal, Tulsa, Okla.

WEWOKA, OKLAHOMA'S newest oil field, leases and royalties in Seminole and Pottawatomie Counties. Royalty in 33-8-8. W. R. Turner, 2123 Warren Ave., Chicago, Ill.

LEASES—PRODUCTION

FOR SALE—A gas well making four million feet with 800-pound rock pressure; been in a year; The Texas Co. taking the gas at 6 cents per thousand. $20,000 buys the well with a 25-acre lease. Address Gas Well, Box 42, Eastland, Tex.

PRODUCTION

If you have production to sell send full particulars to

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I now own and control 10,000 acres of oil lands in the State of Wyoming, situated in six different structures, including the famous Salt Creek and Teapot Domes, and will sell a one-half undivided interest to the right party. Do not inquire unless you have some cash and are ready to invest at big odds. K. S. Albert, U. S. Commissioner, 613 East Thirteenth, Casper, Wyo.

WILL GIVE 12,000 acres for a test well in promising Arkansas territory. Address G. Lucas, 617 Edwards St., Shreveport, La.

10c AN ACRE

We are overstocked and are offering the following excellent Texas oil leases at these sacrifice prices:

Blanco County	10c an acre
Bandera County	30c an acre
Comal County	15c an acre
Hays County	20c an acre
Kerr County	15c an acre
Medina County	40c an acre
Travis County	25c an acre

All other leases at bargain prices.

All these leases are standard five-year commercial leases with small yearly rentals and practically all of them are brand new leases. We have on hand over 20,000 acres and immediate delivery on all of the above leases can be had. We offer for sale nothing but our own leases, which are bought direct from the land owner. These prices are rock bottom. The time to buy leases is now, when they can be had at the lowest prices in history. We will sell from 10 acres up at slightly higher prices. Write for map and full particulars.

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EIGHT THOUSAND FEET of 12½-inch 50-lb. once-run casing for sale at $1.20 per foot f.o.b. cars Eastland, Tex. Simmons & Co., Eastland, Tex.

FOR SALE—23 Star Drilling Machines in good condition and a complete set of tools; will sell very reasonable for cash. J. H. Brocksmith, 1856 Menard St., St. Louis, Mo.

FOR SALE—Used casing and line pipe in A-1 condition, all sizes. Write or wire for prices. Cisco Pipe & Supply Co., Cisco, Tex.

FOR SALE—Seven miles 5⅝-inch casing now in ground using as gas line. Gas going through the line now. Will sell in ground for 25 cents foot f.o.b. Cars 35 cents foot. If interested come and inspect right here. C. M. Sarber, Chanute, Kans.

WE HAVE for sale at $3.50 each, about 100 copies of Hilgard's Report on the Geology of Mississippi (1860). These reports are rare, but are indispensable to geologists who expect to work in Mississippi. Address E. N. Lowe, Director, Geological Survey, Jackson, Miss.

FOR SALE, delivered, at Mohrland, Utah, 600 feet of 12-inch and 600 feet of 10-inch casing; also 400 feet of 6⅝-inch at Myton, Utah. Address Box 700, care The Oil and Gas Journal, Tulsa, Okla.

I HAVE a No. 2 National machine. Can furnish casing for well; any persons wanting to drill for oil or gas to a depth of 1,600 feet, more or less. Joe L. Smith, 514 W. Fourth Ave., El Dorado, Kans.

FOR SALE—EQUIPMENT

FOR SALE—Gurley light mountain transit with Stadia wires and vertical arc. Good condition. P. O. Box 1048, Ponca City, Okla.

2,000 FEET used 6-inch National upset drive pipe for drilling on line pipe located 10 miles east of Ryan, Okla. Will greatly sacrifice. R. O. Stuart, 219 Fidelity National Bank Bldg., Oklahoma City, Okla.

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FOR SALE—One string of standard tools, from 18-inch to 5⅛; 50 h. p. boiler; 12x12 Ajax engine, used on 3 wells. Also one No. 28 Star machine, with calf wheel; 25 h. p. Mounted Oil Field Boiler; tools from 10-inch to 6⅝, with machine. For further information write H. L. DeWoody, 817 Hargrove St., Ardmore, Okla. Telephone 1648. Will sell at a bargain.

FOR SALE — A 28 Star, fully equipped, near Sedan, Kans. Will sell cheap to close a copartnership. W. G. Kountz, Webb City, Mo.

USED MACHINERY of all kinds: boilers, steam and gas engines, compressors, boiler tubes, pipe and fittings. Ask for stock sheet. Landreth Machinery Co., Joplin, Mo.

FOR SALE—All sizes used casing and line pipe. Wire or write for prices. Breckenridge Salvage & Supply Co., Breckenridge, Tex.

FOR SALE—De Laval separator, good condition, less than half price. Bryte-Nelson Refining Co., 1171 Arcade, St. Louis, Mo.

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SOME of the best breed greyhounds, pups, matrons in whelp. B. Byers, Troy, Kans.

NEWFOUNDLAND puppies. Registerable. Write for prices. Joel Birkey, Fisher, Ill.

NEWFOUNDLAND — At stud, Togo, A. K. C. 373051; also thoroughbred Newfoundland puppies. Box 62, Fort Riley, Kans.

WANTED

WANTED—Someone to help finance a well on proven acreage on structure, high grade oil. Will not consider any promoting. Box 751, Fort Worth, Tex.

WANTED—First-class refinery up to 2,500 barrels per day, connected with pipe line, good gravity. Also want producing property on 50 per cent basis of crude to go to credit of properties on pipe line, we to go on property our expense. Victory Petroleum Co., Lexington, Ky.

DRILLING COMPANY wants acreage, proven or unproven, to test on 50-50 basis. Large tracts in shallow fields of Kentucky or Tennessee preferred. Immediate action necessary. 402-3 Flatiron Bldg., Chicago, Ill.

WANTED—To superintend that refinery you are going to start up or build. Competent manufacturer or constructor. Can get results at minimum cost. Years of experience. Address Box 805, care The Oil and Gas Journal.

WANTED — Brokers or promoters. Awarded 6,000 acres by commissioner New Mexico on structure. Government shows seepage. Drilling well excellent showing. Sell 4,800 acres at $15 acre. This also buys 16 units of 24-unit company. Well set up on 640 solid, including 320 additional; excellent geology; good commission. Kansas and Oklahoma Drilling and Leasing Co., Box 824, Wichita, Kans.

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CAPITAL SEEKERS confronted with difficult financial problems should communicate with Amster Leonard, First National Bank Bldg., Chicago.

JOHNSTON DRILLING CO., INC., El Dorado, Ark., experienced oil well contractors, can get proven acreage payable out of half first oil and contract to drill your well. Also have wildcat blocks.

CAPITAL IN ANY AMOUNT may be raised by reaching selected investors direct by mail. Twenty years' experience planning and writing sales campaigns for financing enterprises of almost every nature. Outline your proposition for free suggestions, samples of my work and new, enlarged, illustrated edition of my book, "How to Raise Capital." Gardner Advertising Service, 511-L Ridge, Arcade, Kansas City, Mo.

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To circularize the readers of The Oil and Gas Journal, once, it would cost more than $500. For a small sum you can reach these readers and place your proposition before them.

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6 lines	1.50	2.40	3.30	4.20
7 lines	1.75	2.80	3.85	4.90
8 lines	2.00	3.20	4.40	5.60
9 lines	2.25	3.60	4.95	6.30
10 lines	2.50	4.00	5.50	7.00

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EASTERN CAPITAL is interested in refining proposition. Give full particulars in first letter. Address Box 808, care The Oil and Gas Journal, Tulsa, Okla.

SALES MANAGER will put $10,000 and services into business or venture that promises a worth-while future. P. O. Box 457, Chicago.

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Brokers and others who desire to make reliable connection in the Oklahoma oil fields, write me. Best bank references; 10 years' experience; have helped many others make money; can furnish oil production, leases and royalties in good fields. If you desire to buy or handle oil properties, write me. John S. Graham, Oil Producer, Chickasha, Okla.

WANTED—An issue of securities to float in the East by reliable concern on commission. Address Brokers, U. S. Realty Bldg., Suite 512, New York.

PRACTICAL oil man, controlling locating process tested and proven, needs small amount additional capital. Big business contracted and in prospect. Positively the best oil proposition in the country. P. O. Box 419, Oklahoma City.

ORGANIZE YOUR BUSINESS under Declaration of Trust with all the advantages of a corporation; none of its disadvantages; good in any State; no State fee or State or Federal reports; no blue sky. Corporation Substitute Co., 572 Sheidley Bldg., Kansas City, Mo.

WILL FURNISH a 320-acre block in Pushmataha County for drilling contract. Wm. J. Riley, Atlantic City, N. J.

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We will advise him of your kindness.

POSITION WANTED

PRACTICAL OIL MAN, familiar with field work, leasing of land, abstracting of titles, drilling, pumping powers, etc., would go to foreign country. Office man with executive ability. Box CLC, The Oil and Gas Journal, 30 Church St., New York.

WILL CONSIDER position superintending refinery for salary and per cent of net profits to assure company of my ability. Box 202, Grandfield, Okla.

ALL-ROUND oil man needs position. Thoroughly competent to handle office or field work, leases, titles, etc. Smith, 916 N. Shartel, Oklahoma City.

The Journal has a wide circulation, going to all the oil fields, refineries, pipe line stations, gasoline plants, supply houses and business offices. It thoroughly covers the industry.

MECHANICAL ENGINEER, with broad experience in large refinery engineering, designing, building, testing and operating gasoline plants, will be open for position with responsible company about January 1. Box 800, care The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED

REFINERY Superintendent wishes position; 20 years' experience; have built two refineries. Address R. C., care The Oil and Gas Journal, Tulsa, Okla.

MINING ENGINEER — Twenty-five years experience, open for engagement. Ten years in Mexico and five years in South America. Conversant with geology of oil. Address Dargin, Hotel Sylvania, Denver, Colo.

SALESMAN—Four years' experience in sales of motor oils, plant oils, gasoline and kerosene. Desire a commission proposition, but would consider a salary job. Address Box 600, care The Oil and Gas Journal, Tulsa, Okla.

Answer the 1924 Red Cross Roll Call.

GEOLOGIST, technical graduate and experienced, wishes position with a reliable concern. Box 809, The Oil and Gas Journal, Tulsa, Okla.

FIELD MANAGER, who has had several years' experience in charge of production and drilling for large companies in the Mid-Continent and Wyoming fields, is open for a position of responsibility. Am a graduate engineer and possess references of the highest character. My experience, which has been very thorough and extensive as an executive and field manager, qualifies me to handle the operations of a private individual or the work of district superintendent. If you are in need of a man who has developed character and initiative, please address Box 803, care The Oil and Gas Journal, Tulsa, Okla.

STILL SUPERINTENDENT, who has had 13 years' experience on steam, rerun, crude and cracking processes, desires change to a growing organization and where there is a large opportunity for advancement. Address Box 801, care The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED—Graduate geologist, single, 27 years of age, three years' experience in Mexico, mostly reconnoissance, for past year chief geologist for small company, desires position in Latin America or Asia. Best of references. Write Box 807, care The Oil and Gas Journal, Tulsa, Okla.

REFINERY MANAGER - Superintendent desires connection with responsible concern; 14 years' experience in construction and refining; at present in charge of operations and sales of company in south. High-class references. Write Box 806, care The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED by young man with oil or supply company. Has had 8 years' experience in warehouse and purchasing department. Can furnish A-1 reference. Address Box 1281, Bartlesville, Okla.

MECHANICAL POSITION desired. Technical education, practical contract shop machinist. Technical and practical oil field specialty manufacture; erection and maintenance steam, oil and gas units. Not afraid of work or responsibilities. Address Box 802, The Oil and Gas Journal, Tulsa, Okla.

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S. D. DEALERS DECLARE PRICEUNJUSTIFIABLE

(Continued from Page 22)

would represent. Two cents a gallon in the State of South Dakota means $1,- that the farmers east of the Missouri River lost $200,000,000 during the past three years and the stockmen west of the Missouri River lost $50,000,000, there is no reason why gasoline dealers should not be satisfied with a 40 per cent profit."

Standard's Statement

The Standard Oil Co. of Indiana in a formal statement vigorously denied the charges of Governor McMaster of South Dakota that the Indiana company had combined with the independents to boost the price of gasoline in his State.

The Standard's statement in full follows:

"The Standard Oil of Indiana denies that it has combined with so-called independent oil dealers or any one else to raise the price of gasoline in the State of South Dakota or at any other place.

"It asserts recent action in the State of South Dakota in advancing the price at service stations without advancing tank wagon price schedules was done to restore the usual 2-cent wagon price schedules and prices at service stations.

"The Standard Oil Co. of Indiana operates only 32 service stations in South Dakota, whereas it operates more than 250 tank wagon stations. This charge brought South Dakota into a parity with all other States in which this company does business.

"The statement that there is either a 40 per cent or 60 per cent profit in the oil business in South Dakota is supremely ridiculous. We venture to express the doubt whether anyone doing business in South Dakota is making a profit of 2 cents per gallon."

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unaffected by internal pressure changes

The Davis Gas Pressure Regulator is **tight** when closed and is unaffected by internal changes in pressure. This is accomplished by the balance feature and the double bevel seated type of disc.

It is simple in construction, compact in design. There is no stuffing box and the diaphragm and disc are direct connected and as the regulator is extremely sensitive, it will maintain a steady service pressure without variation, giving accurate regulation at minimum cost regardless of the fluctuations in the high pressure.

All vibration of the lever is eliminated by an oil dash pot thus insuring steady action.

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SPECIALTIES

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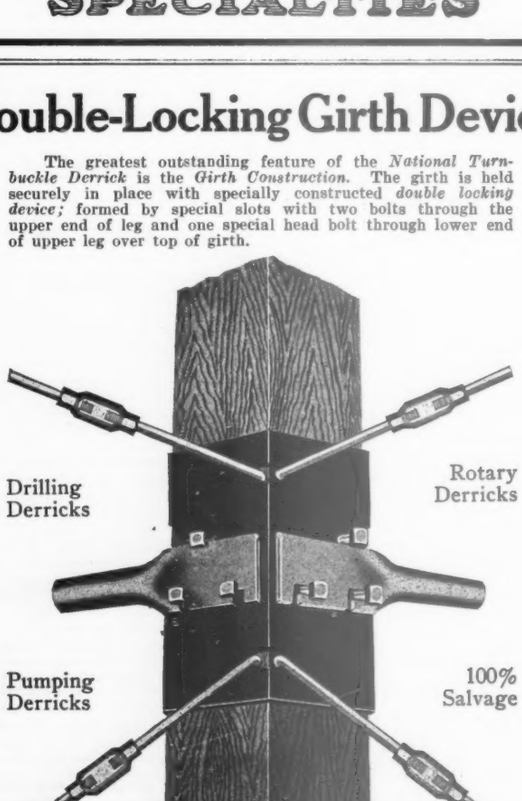
Double-Locking Girth Device

The greatest outstanding feature of the *National Turnbuckle Derrick* is the *Girth Construction.* The girth is held securely in place with specially constructed *double locking device;* formed by special slots with two bolts through the upper end of leg and one special head bolt through lower end of upper leg over top of girth.



National Turnbuckle Derrick Co.
Mahan, McCarthy & Besse
Box 797, Pawhuska, Okla.

Edward H. Jennings, Prominent Operator Dies in Pittsburgh

PITTSBURGH, Pa., Nov. 17.—Edward H. Jennings, 71 years old, president of the Columbia National Bank, and one of the best-known oil operators in the Pittsburgh district, head of the firm of E. H. Jennings Brothers & Co., oil producers, died at 2:45 o'clock this morning in the Allegheny General Hospital from the effects of an operation performed last Tuesday.

Mr. Jennings entered the oil producing business 50 years ago, becoming associated with his father, Richard Jennings, in petroleum production in western Pennsylvania, and later he became interested in gas production.

Gold and silver mining also drew his attention, some of his holdings in these metals being rated among the most profitable in the mining industry. In the later years of his life he was active also in banking circles.

Had Many Holdings

Born at Brady's Bend, Pa., August 10, 1852, the son of Richard and Katherine Evans Jennings, he was educated in the public schools there. When 20 years old he entered the oil business with his father. He was given a practical business training early in life and entered new fields of endeavor only after the closest study, and was untiring in his efforts in the acquisition and subsequent operation of new fields.

The firm of which he was head is considered by many oil men to be the largest individual independent producer in the eastern oil territory. In 1891 he formed the firm of E. H. Jennings and Brothers in Pittsburgh, with offices now in the Columbia Bank Building. He was a pioneer in the Bakerstown and Wildwood Fields, and his well, the Matthews, in the McDonald Field, startled those engaged in the industry with a daily production of 10,000 barrels. Later he sold his holdings in the Sisterville Field for more than a half million dollars, still retaining hundreds of wells in many producing sections.

Banking Connections

Mr. Jennings was a former president and director of the Pure Oil Co., treasurer and director of the Delmar Oil Co., president and director of the Jennings Oil Co. and Jennings Producing Co., treasurer and director of the Kanawha Oil Co., a director of the Manufacturers' Light & Heat Co., National Fuel Co., New Cumberland Water & Gas Co., Ohio Valley Gas Co., Pure Oil Pipe Line Co., Tri State Gas Co., United States Pipe Line Co., Venture Oil Co., Wetzel Gas Co., Western Pennsylvania Gas Co., Wheeling Natural Gas Co., president and director of the Producers' & Refiners' Oil Co. and the Quaker Oil & Gas Co., vice president and director of the Bessemer Coke Co., and director of the Jennings Mines Co., and a director of the Emerald Coal & Coke Co.

Eight years ago he was elected president and a director of the Columbia National Bank, positions which he retained at the time of his death. He was a former president and director of the Colonial Trust Co. of Pittsburgh, trustee of the Dollar Savings Bank, director of the Freehold Bank and president and director of the Colonial Trust Co. at Farrell, Pa. He also was a director of the Pittsburgh Maternity Dispensary. For years he also was president of the Pennsylvania Trust Co. and was one of the prime movers in the organization of the American Trust Co.

Mr. Jennings is survived by his widow; four daughters, Mrs. R. J. Magee, Sewickley, Pa.; Mrs. Jerome Hill, Pittsburgh; Mrs. Thomas McConnell, Pittsburgh; and Miss Barbara Jennings, at home; three sons, R. G. Jennings, Sewickley, Pa.; E. H. Jennings, Jr., Pittsburgh and Verner Jennings, Jr., Pittsburgh and Jennings, at home; four sisters, Mrs. N. S. Sloan, Kansas City; Mrs. Charles Grissith and Mrs. Joseph K. Loze, of Johnstown, Pa., and Mrs. Jenifer J Leslie, Pittsburgh.

CAR FOR EACH EIGHT PERSONS IN COUNTY

There is some kind of a motor vehicle for every eight persons in the United States, according to statistics just made public by the Department of Agriculture.

More than 13,002,427 motor vehicles are now in operation in the United States, compared with 3,512,996 in 1916. The large increase has been systematic and at the rate of more than 600,000 every six months, and no indication of retardment is noted.

There are now 11,571,181 pleasure cars, 60,188 hired vehicles, (including busses, etc.), 1,371,058 trucks and 141,521 motorcycles registered throughout the country.

More than $167,240,937 was derived in taxes from the registration of these vehicles, of which $134,733,225 was expended by the various States in road projects.

The year 1923 will establish a new high record in the number of automobiles manufactured in this country. An output of approximately 4,000,000 cars and trucks is expected to be reported when complete returns are available. Despite this record-breaking production the industry as a whole is looking forward to continued prosperity in 1924.

Automobile registration in this country at the beginning of 1924, it is estimated, will be considerably above the 14,000,000 mark. "This great number of vehicles in use means a record-breaking replacement demand for parts and accessories," says The Standard Daily Trade Service. "It is estimated that each car in active use requires an annual expenditure of $38 for replacement of parts and $53 for accessories. Assuming that 75 per cent, or 10,500,000 cars, of the total number of machines registered at the beginning of next year are actively operated, there would be a replacement equipment demand alone in 1924 of $1,035,000,000.

THREE ASKING FOR OIL GRANT FROM ALBANIA

According to a report from Tirana, Albania, the Albanian parliament has had under discussion various applications for oil concessions. The Anglo-Persian Oil Co. proposed the grant of a concession over 100,000 acres, for which it offered 75 gold centimes per acre and a 13½ per cent share in the profits. The Standard Oil Co. offered exactly double these rates. Whilst the Anglo-Persian requests the right to select the areas which it considers suitable, the Standard asks solely for the right to exploit the oil deposits of Berat and Durazzo. The offer of the Sinclair group is about midway between the two named. The result of the parliamentary discussion is not yet known, but it is stated that the government will give the preference to the English company notwithstanding that its offer is the lowest, says the London Oil News.

RUSSIAN OIL OUTLET

Another outlet for Russian oil is described in the London Oil News. A shipment contracted for in July and destined for the well known Floridsorf refinery, which used to refine a great deal of Galician oil, has reached that plant, which is close to Vienna, by the Danube route. The incident is a further proof of the consideration that even if British, French and Belgian companies refused to trade with those who have crude oil to export from Russia, there are other people, badly in need of petroleum products who are glad to do so. The case in point then was Hungary; the case in point now is Austria. In this connection it may be pointed out that the Austrian Government has secured the lease of a portion of the now Italian port of Trieste, so that here is another route by which Russian crude oil, among other goods, may reach Austria.

Figuring Fair Price For Gasoline Matter Of Varying Factors

What is a fair price for gasoline at the pump? Is the current price at Los Angeles or Buffalo the price that should rule in Dallas and Hoboken? Or vice versa?

What is gasoline with today along the northern Atlantic Seaboard? Is it worth the 18 cents to 19 cents a gallon generally obtained by dealers in this locality or the 12 to 13 cents price reported from California and Texas?

The acting mayor of our largest city calls upon the State's Attorney General, the Governor of New York and a United States Senator to investigate the spread between prices in California and New York. He finds the public paying extortionate prices—"clearly 5 cents a gallon too high," he says.

A national automobile association, hearing reports of widely differing prices, is prepared to urge upon Congress a sweeping investigation, with the hope that such an inquiry will result in making the lowest price at any point the universal price the country over.

Shoes as an Example

With equal reason, says the current issue of "The Lamp," the attention of Congress might be called to the fact that a basement shoe dealer in South Chicago is selling shoes at $3 a pair, and to legislate so that Boston and San Francisco may have $3 shoes.

The fair retail price of gasoline can only be arrived at by adding together these items:

1. What is paid for the crude oil.
2. The cost of transporting that crude to a refinery.
3. The cost of refining.
4. The price realized for finished products other than gasoline.
5. The cost of distributing the finished product to dealers.
6. The differential added by the retail dealer.

It needs no expensive legislative inquiry to reach this conclusion. There is no other equitable and permanent basis on which the industry can operate. There are always exceptions. The oil business furnishes a case in point today.

Sometimes an article sells for less than a fair price. There is free and unrestrained competition in the oil business and competition operates there exactly as it does in other markets. The supply of gasoline exceeds the demand and certain sellers make prices without regard to the cost of replacing the stocks they want to turn into cash.

Stiff Competition

The very fact of so many different gasoline prices at different points itself proves the existence of stiff competition. Everybody is engaged in it. The producer is competing with fellow producers. Some refiners are making prices for gasoline that cannot cover their costs. Marketing companies have followed each other in lowering tank wagon or wholesale prices.

However, the public does not expect to buy, over a long period, any manufactured article at less than the cost of producing it. Over production, late seasons, changed buying habits, panics or the tariff may create temporary bargains at the expense of the manufacturer or jobber. It is the oil industry's turn now. Overproduction has made it for the time being a generally unprofitable business.

There are many producers of crude oil that have had to sell and are still selling petroleum at an out-of-pocket loss. There are plenty of refiners who have converted stocks into cash at the expense of all of their profits and part of their capital. This situation has been frankly set forth in trade journals and at meetings of different interests open to the public, but it does not seem to be understood. The lower prices go the louder the call for somebody to do something.

No fair mined man will argue that because in certain places gasoline is sold at a figure which ignores costs, that price thereupon constitutes a fair standard of value the country over. Merchants do not regard a price for a job lot as a fair criterion for manufacturers carrying large stocks and permanently established in business.

The irony of the attack on the hapless oil man lies in the fact that gasoline is about the only important commodity which is not selling far above its pre-war cost. Gasoline is so cheap that Congress might call it to the attention of the food, labor and rent profiteers. If the gasoline being made today were manufactured from crude oil bought at the lowest quotations, the average refiner would lose money at the prices he gets for his gasoline. Unfortunately for him, he is for a large part refining crude oil bought at the higher prices in force months back.

The oil industry might be greatly benefited by another investigation. It would certainly be helped by an honest inquiry by intelligent men.

But no matter what investigations are undertaken, nor what they develop, the oil business will not be able to escape the workings of familiar economic laws. The cost of its products will continue dependent upon what it pays for material and labor, and the selling price will fluctuate with changes in the amount produced and the amount going into consumption.

CANADA SEEKS OIL AT FLATHEAD RIVER

Development work is being conducted in the Flathead River Field, British Columbia, about 6 miles north of the international boundary. The Province of British Columbia has recently constructed a bridge across the Flathead just north of the boundary, to facilitate the opening up of the oil field.

Recent developments embrace a well 2,600 feet deep, 8-inch pipe, put in by an American company, which expects to pierce the limestone overthrow and strike the oil reservoir in the Cretaceous formation within 200 feet. At a distance of about three-fourths of a mile a well 150 feet deep, 8-inch pipe, was sunk in 1914 by the Flathead Oil Co. Operations at this point were discontinued on account of lack of funds. The pipe is now filled with a colorless oil which it is stated has been used like gasoline as automobile fued after being merely strained through cloth. Between these two wells is another about 500 feet deep, 12-inch pipe, jammed at tht bottom. This is now full of water, but with a little oil on top the color of ordinary vaseline. Operations thus far conducted in this field have been in seepages, but with the penetration of the limestone overthrow the real value of the field will be determined.

MOTOR TRAFFIC IN ALGERIA

Algeria was acquired by the French at a time when the railroad was in its infancy. Consequently, the colony was well provided with wagon roads for strategical purposes. The subsequent slow and inadequate development of railway facilities, especially following increased agricultural production, has entailed more and more traffic on ordinary roads. Thus the motor vehicle has come into good use in most cases in Algeria to supplement the steam lines, but in some indirect competition therewith. This latter case has come about particularly since the war. Estimates as to the number of automobiles, including trucks and busses, in Algeria, vary from 12,000 to 15,000. Customs statistics show that a total of 6,950 was imported in 1920, 1921 and 1922. Autobus transportation is said to be developing satisfactorily, making communication between the capital and the interior centers of population much better. The roads do not stand up so well but are repaired often.

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Write or phone for prices

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Cannot wind or twist.

Has never been pulled in.

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(Lessors of Tank Cars)

Sharon, Pennsylvania

New York St. Louis Kansas City Tulsa Houston
San Francisco Beaumont Casper

GULF PORT VESSEL SHIPMENTS DURING MONTH OF OCTOBER

HOUSTON, Tex., Nov. 19.—Shipments of refinery products and crude from the Gulf ports during the month of October total 9,840,688 bbls., a decline of 237,818 bbls., compared with the previous month. Refinery products decreased 248,994 bbls. and crude fell off 11,176 bbls.

Consignments of crude aggregated over 4,000,000 bbls. during September and October, representing an increase in the movement of the product of the Powell Field by tankers to north Atlantic seaboard refineries. The oil is brought to the Gulf ports through pipe lines and by rail.

The Humble Oil & Refining Co. records the largest increase, sending out 1,701,323 bbls. from Texas City terminals during October against 751,532 bbls. during September. The October consignments were made up of 880,097 bbls. from Mexia and Powell, 755,004 bbls. from the Ranger districts and 66,222 bbls. of Gulf Coast heavy gravity crude.

The Port Arthur-Beaumont district furnished 5,613,884 bbls. of the total shipments for October, a decrease of 183,003 bbls. from the September figures. The Texas City-Houston ship channel plants and terminals loaded 2,568,893 bbls. of the total, representing an increase of 445,687 bbls. over September and the South Louisiana ports sent out 1,681,451 bbls., a decline of 476,962 bbls. from the previous month.

Exports

The export shipments of refinery products total 1,446,259 bbls., a decrease of 95,168 bbls. from September consignments. The Magnolia Petroleum Co. makes no division of its coastwise and foreign shipments, hence it does not appear in the export table.

The following tables gives the shipments by each company:

FROM PORT ARTHUR

By The Texas Co.
Refined

Coastwise	1,038,191
Export	309,790
Total	1,347,981

Crude

Coastwise	266,667

By Gulf Refining Co.
Refined

Coastwise	1,702,948
Export	374,785
Total	2,077,733

FROM BEAUMONT

By Magnolia Petroleum Co.
Refined

Coastwise	616,045

Includes 126,227 bbls. fuel oil.

Crude

Coastwise	308,508

FROM PORT ARTHUR-SABINE

By Atlantic Oil Producing Co.
Crude

Coastwise	873,550

FROM SMITH'S BLUFF

By Pure Oil Pipe Line Co.
Crude

Coastwise	72,860

FROM TEXAS CITY

By Humble Oil & Refining Co.
Crude

Coastwise	1,701,323

FROM BAYTOWN —(Refinery)

By Humble Oil & Refining Co.
Refined

Coastwise	353,450

Crude

Coastwise	440,120

FROM HOUSTON

By Galena-Signal Oil of Texas
Refined

Coastwise	74,000

FROM BATON ROUGE

By Standard of Louisiana
Refined

Coastwise	497,612
Export	656,150
Total	1,152,762

Crude

Coastwise	350,636

FROM NEW ORLEANS—(Storage)
Refined

Coastwise	71,519
Export	106,534
Total	178,053

SUMMARY
Vessel Shipments from Gulf Ports During October, 1923

Company and port—	Refined	Crude	Total
The Texas Co., Port Arthur	1,374,981	266,667	1,641,648
Gulf Refining, Port Arthur	2,077,733	.....	2,077,733
Magnolia Petroleum, Beaumont	616,045	308,508	974,553
Atlantic O. P., Port Arthur-Sabine	.....	873,550	873,550
Pure O. P. L., Smith's Bluff	.....	72,860	72,860
H. O. & R., Texas City	.....	1,702,323	1,702,323
H. O. & R., Baytown	353,450	440,120	793,570
Galena-Signal, Houston	74,000	.....	74,000
S. O. of Louisiana, Baton Rouge	1,152,762	350,636	1,503,398
S. O. of Louisiana, New Orleans	178,053	.....	178,053
Total for October	5,827,024	4,013,664	9,840,688
Total for September	6,076,018	4,002,488	10,078,506
Difference	248,994	11,176	237,818

Exports

Company and port—	Refined	Crude	Total
The Texas Co., Port Arthur	309,790	.....	309,790
Gulf Refining, Port Arthur	374,785	.....	374,785
S. O. of Louisiana, Baton Rouge	655,150	.....	655,150
S. O. of Louisiana, New Orleans	106,534	.....	106,534
Total for October	1,446,259		1,446,259
Total for September	1,541,427		1,541,427
Difference	95,168		95,168
Total for August	1,866,641	51,758	1,918,399
Total for July	1,897,606	.....	1,897,606
Total for June	1,356,959	78,981	1,445,324
Total for May	1,356,659	.....	1,356,659
Total for April	1,873,544	.....	1,873,544
Total for March	1,945,674	.....	1,945,674
Total for February	1,613,194	64,383	1,677,577
Total for January	1,510,322	.....	1,510,322

RAILROAD HAS RIGHT TO DRILL AT NAVARRO

AUSTIN, Tex., Nov. 17.—In a divided opinion the Railroad Commission granted the application of John A. Hulen, receiver for the Trinity & Brazos Valley Railroad Co., for an exception under the provisions of rule 37, permitting the drilling of tests for oil at three locations on the company's right of way near the town of Navarro, in Navarro County, all of the locations being in the Corsicana deep pay field.

It is asserted in the order that "the commission is convinced it has no legal right to deny to a railroad company, which owns its right of way in fee simple, the right to drill for oil and to receive such benefits from oil deposits as any other owner of land might have. This opinion is based upon the decision of the courts and the opinion of the Attorney General."

The commission granted unanimously the application of C. B. Gaddis for permit to drill at two locations on a strip containing 3.24 acres out of the T. E. Boyd lease in Navarro County, test No. 1 to be drilled 300 feet south of the north line in the center of the strip, and test No. 2 to be drilled 300 feet north of the south line in the center of the strip. The order is issued subject to the judgment of any court in the matter of title.

ENLARGED MARKET FOR MOTOR OIL IN PROPOSED TRUCK EXPANSION

WASHINGTON, D. C., Nov. 19.—A vastly enlarged market for motor oils is suggested in a comprehensive plan for linking organized motor transport with the railroads in a balanced national system of transportation outlined in the report of the Committee on the Relation of Highways and Motor Transport to other transport agencies submitted to Julius H. Barnes, president of the Chamber of Commerce of the United States.

Sweeping changes in handling and distributing freight are proposed. Store-door collection and delivery to relieve congestion within the crowded terminal areas, the use of organized and responsible motor transport to relieve the railroads of various forms of uneconomical service, including the unprofitable short haul, the wider use of self-propelled railway cars and the extension of passenger bus service to supplement existing facilities are recommended.

To pave the way for these changes the committee suggests the regulation of common carrier operations of motor vehicles by the Federal and State commissions which have supervision of rail and water carriers and the systematic development of highways.

Increased Use for Trucks

The committee, of which Alfred H. Swayne, vice president of the General Motors Corp. is chairman, includes railway traffic officials, officers of farm and labor organizations, representatives of the motor industry, motor haulage companies, water carriers and the shipping public. As a result of its study the committee announces the following conclusions:

Store-door delivery by motor truck which would relieve congestion in terminal areas and greatly increase the capacity of the freight stations.

Organized motor transport can also relieve the railroads of various forms of uneconomical service, such as trapcar service, switching between local stations and short haul shipments within the terminal area. This will reduce yard congestion and release many cars for more profitable line haul.

To secure the fullest benefit from this organized motor transport will require the utilization and development of modern technical equipment such as demountable bodies, trailers and semitrailers, containers and container cars, and mechanical handling appliances.

Outside of the terminal areas there are distance zones, in which one type of carrier, the motor for short haul and the railway (or waterway) for long haul, is clearly more economical than the other, and intermediate zones in which competition is inevitable. The motor vehicle also has a wide field where there is no other agency available. Motor trucks and busses should be used to supplement the facilities of existing common carriers.

Unprofitable steam railroad service can, in some cases, be successfully replaced by the use of self-propelled railroad motor cars.

To Organize Truck Service

To insure to the public continuity and reliability of service, sound financial organization of motor transport is necessary as well as public regulation of common-carrier motor service.

Passenger bus transport should be regulated to secure the best service to the public, certificates of public convenience and necessity as already required in many States being a useful means of insuring reliable and continuous service. Rail lines can often advantageously extend or supplement their service by bus lines, and in States where this is now prohibited, such restrictions should be abolished.

Regulation of traffic and size, weight and speed of motor vehicles by States and municipalities having control should be made more uniform within States and between States. Regulation of common-carrier operations of motor vehicles, including rate regulation, should be handled by the Federal or State authorities, under the commissions which now control the operations of rail and water carriers.

Trunk highways in any area should be able to carry the normal vehicular traffic and, if the traffic economically justifies the use of especially heavy trucks, highways with stronger subbases must be provided.

"The congestion of transportation," the committee continues in its reports, "today centers around the terminals of our great cities, and it is at these terminals that the railroads find the greatest difficulty in keeping pace with the public need. With hardly an exception the railroads are constantly faced with a demand for more and better terminal facilities in the face of prohibitive real estate values and other stupendous obstacles to expansion.

By the use of motor transport the facilities of the terminals can be so expanded as greatly to increase their capacity.

Solve Railroad Problem

"The general demand for more and better rail transportation is insistent; the railroads must either add to their present terminal facilities or find a way to pass more freight through them. Enlargement or multiplication of terminal stations and team tracks in important terminal areas is practically impossible because of the prohibitive cost, objection of municipalities to the expansion of railroad holdings in congested areas, and the additional traffic congestion that would result from greater centralization of cartage operations in such areas. Organized cartage instead of the present go-as-you-please methods of receipt and delivery at the terminal; and store-door delivery would furnish real completed transportation. Complete elimination of certain rail service, covering intraterminal movement, such as movement between industries or different plants of the same industry within the terminal area, which would be handled by motor truck.

THREE YEAR OIL PLAN BY ARGENTINE GOVT.

The Argentine Petroleum Department has announced a program covering the activities of the department for the next three years which is expected to bring the production of the Government oil fields at Comodoro Rivadavia up to 12,000,000 bbl. for the year 1927.

During the year 1922 a total of 32 wells were brought in of which 24 were begun and terminated during the year. Thirty wells have been completed during the first nine months of the present year. Trade Commissioner G. S. Brady informs the Commerce Department, and it is expected that the total for the year will be 47. The program then calls for 75 new wells during 1924. Twenty-four of the 30 wells brought in this year were producers, 4 were gas and 2 dry.

The department now has 32 drilling outfits at Comodoro Rivadavia, and is preparing to purchase more. At the fiscal workings at Plaza Huincul, Neuquen, seven wells are in operation, three are being drilled, and material is being prepared to drill two more.

MACEDONIA DISAPPOINTING

It is reported that the Anglo-Persian Oil Co., which obtained the exclusive concession to explore Greek Macedonia for petroleum has not met with much success. Two geologists have spent six months exploring this territory, and an expert from the London office has spent two months to check results and it is understood that he has recommended an abandonment of the effort. Numerous small traces in river beds and springs have been located, but in no case was there indication of quantities commercially interesting, says Consul L. B. Morris, Salonika.

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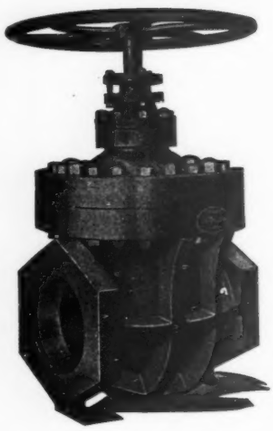

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28

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CONTROL OF PRODUCTION PROBLEM BEFORE THE PETROLEUM INDUSTRY

By Thomas M. Galey

A New York business organizer asked why the oil producers could not overcome their troubles in the same manner as the copper producers. When the supply of copper became excessive and the price fell below the cost of production a big pool was formed which took over the stocks and marketed them intelligently so that the situation was rapidly corrected.

The questioner was informed that the state of disorganization in the oil industry precluded any possibility of correcting its troubles in the same manner. He was told that oil production is scattered throughout a large area in the United States and the very nature of the business makes any organized effort to control its prosperity a very difficult problem.

There was a time when production could be controlled to some extent by price cutting but the business under the stimulus of war prices for crude gathered such headway that price cutting and the most severe proration ever known have barely been able to check its disorganized speed.

There is an intense fraternal feeling among producers as was evidenced at the A. P. I. meeting in St. Louis last summer and at the Petroleum Exposition in Tulsa, but no attempt to organize in a business way on a large scale has ever made much progress. This may be due to lack of proper leadership. The most important problem to be worked out by organized effort is the control of production so as to prevent waste and financial loss. The practical effect of this accomplishment will be felt clear down the line to the gasoline sale at the filling station. All thoughtful producers have their eyes turned on the very able Amos Beatty, who, as chairman of the committee of the A. P. I. to solve this problem, will soon publish his findings.

The public is confused by false propaganda and lack of information so that professional politicians and growlers have fertile ground for their activities. Another kind of propaganda, uttered by recognized leaders in the business, has had an effect not intended. We refer to the prediction made many times in the past three years that a crude famine lay just ahead.

Since the public has gotten into the business there seems to be no limit to the capital that flows into the search for and the development of production so the business is more financed from without than from within its own resources. Is it not reasonable to assume that nature has provided the oil and that capital and energy will produce it when needed? The constant threat of famine overstimulates the search. Why continue this guess when it has failed so often? Perhaps the business is badly led or are there any leaders at all? Have not most guesses by recognized leaders relative to production been proven by time to be utterly wrong? In the early days in Pennsylvania oil was supposed to exist only under the valleys, but it was later discovered to exist under the hills too. The same thought process has carried on for 60 years.

There is a universal feeling that a Moses is needed to show the way so as to protect the weak and the strong equally. The eagerness to quote and requote the expression of a recognized leader is evidence of that fact. If that leader can regulate production the other difficulties will solve themselves.

EASTERN PIPE LINE REPORT FOR OCTOBER

Receipts of crude petroleum during the month of October from the wells by the pipe lines of the eastern division, which make regular reports of their runs were 2,363,937 barrels. The daily average receipts aggregated 76,256 barrels. This is an increase of 193,195 barrels in the total and a gain of 3,898 barrels in the daily average, when the figures are compared with those for the month of September. The daily average receipts were 953 barrels less than for October, 1922.

All of the pipe lines included in this report had increases in their regular receipts with the exception of the Paragon Development Co.

The receipts of crude oil from the Illinois Field during the month of October as reported by the Illinois Pipe Line Co. and the Tide Water Pipe Co. amounted to 576,867 barrels. The daily average was 18,609 barrels. This is an increase of 34,305 barrels in the total and a gain of 524 barrels in the daily average. The total runs in the Illinois Field were 41,593 barrels smaller than they were in October, 1922. The October runs were divided by companies as follows: Illinois Pipe Line Co., 544,862 barrels, and Tide Water Pipe Co., 32,005 barrels.

Total deliveries by these two companies operating in the Illinois Field were 347,813 barrels. Of this amount the Illinois Pipe Line Co. delivered 228,962 barrels and the Tide Water Pipe Co., 118,851 barrels. The daily average of these October shipments was 11,219 barrels. This is an increase of 41,888 barrels in the total and a gain of 1,022 barrels in the daily average, when the figures are compared with those for September. The total is 106,192 barrels less than the total for October, 1922.

The regular deliveries of crude oil by the eastern lines during the month of October were 4,172,494 barrels and the daily average was 134,597 barrels. This is an increase of 154,521 barrels in the total and a loss of 2,669 barrels in the daily average, compared with the September figures. The daily average is 30,748 barrels less than the daily average shipments for the month of October, 1922.

All of the pipe lines included in this report show increases in their shipments for October over September with the exception of the Eureka Pipe Line Co., the Macksburg and Lima divisions of the Buckeye Pipe Line Co., the Indiana Pipe Line Co., the Northern Pipe Line Co., the Tide Water Pipe Line Co., the Pure Oil Co., the Indian Refining Co., and the Swiss Pipe Line Co.

The amount of crude oil held in storage by the pipe line companies which are included in this report at the close of October was 14,504,111 barrels, a decrease of 299,333 barrels. This is the first decrease that has been reported by these lines in several months. The total amount in storage is the smallest since May. It compares with a high mark of 17,009,293 barrels at the close of February, 1922.

There was an increase of 190,380 barrels in the amount of Pennsylvania oil in storage during the month. The amount of Lima oil stored increased 49,583 barrels. There was a decrease of 34,197 barrels in the Kentucky oil held by these pipe lines. Mid-Continent oil held by the eastern lines decreased 707,446 barrels. There was an increase of 202,346 barrels in the Illinois oil held by these lines.

RUSSIAN CONCESSION TO ITALY

It is reported from Rome that D. I. Tchossovnikoff, representative of the Russian State Petroleum Syndicate, who recently arrived in Rome, declared that negotiations are being carried on in Moscow with the view of granting a concession to an Italo-Belgian consortium of 8,000 dessiatines of unexploited oil fields in Georgia. A dessiatine is 2.7 acres.

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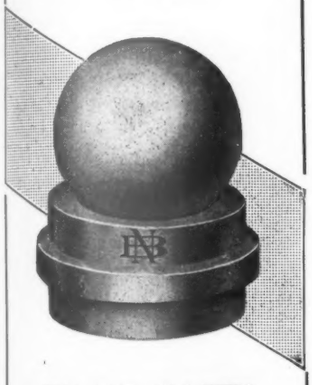

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Nature Upset Senate On Dollar Gasoline With a Flood of Oil

For a long time now the United States has enjoyed a superabundance of crude oil. That condition has led refiners and marketers to offer a superabundance of finished products, particularly of the blue ribbon variety of the industry, which is gasoline.

One of the spots of humor that has lightened the oil man's worries in a falling market, says "The Lamp," is his recollection that an expensive and widely advertised investigation conducted by some of the ablest talent in the United States senate brought in as its contribution to the national welfare a report which featured the prediction that if people did not look out for themselves they would soon be paying one dollar a gallon for gasoline.

Perhaps that suggested danger communicated itself in some way to nature and led her to display a prodigality of crude oil supplies totally unsuspected when the gentlemen in the senate decided that it was time for an investigation. In any event, the petroleum industry suddenly found itself pushed into the limelight as something to be written and talked about.

Rarely, if ever, has the public concerned itself so much with anything bearing on production and price of petroleum products. Associations holding conventions adjourn after passing a resolution calling upon somebody to investigate the price of gasoline. There is a general expectation that congressmen who are not averse to sacrificing privacy in the interests of the public will demand another government investigation in which they will figure prominently as members of the inquisition.

Anything on the oil industry is news. A dispatch from California states that the peak of production there has been passed. A prominent operator replies emphatically that California is good for increased production and will be a bigger factor than it is now. That interests thousands of people who a year ago did not know that California produced oil. A press telegram from Cross Roads, Texas, says that a local price war has brought gasoline down to 15 cents. More news, because today everybody buys gasoline. An oil company advertises its preparedness to supply furnace oil. That, too, is news, for the public mind is greatly concerned over alleged exorbitant cost of coal.

Even had attention not been centered on the industry by the production fireworks in California or the gubernatorial fireworks in South Dakota, the public would have been ready to lend an ear to anything bearing on the supply and cost of gasoline because of the increasing importance of that commodity in their daily lives and pleasures. The automobile, after the home, is the first acquisitive desire of every American family, and whatever the future may hold, today the automobile is of no value without gasoline and lubricating oil. This hunger of the public for news about oil has brought out all sorts of publicity from people uninformed as well as from those acquainted with the industry.

It is manifestly uneconomic to produce and carry stocks far in excess of the country's needs. It is just as uneconomic to attempt to crowd stocks into consumption by reducing prices below manufacturing costs. The best thing for the consumer as well as for the oil industry is an early return to stabilization.

TO DRILL IN INDIA

It is reported that the Suez Oil Co. (Ltd.) is now negotiating for the acquisition of an important interest in the Consolidated Oil Fields of India, it having recently acquired drilling rights over a portion of that company's oil concession in the Kundal Oil Field of India.

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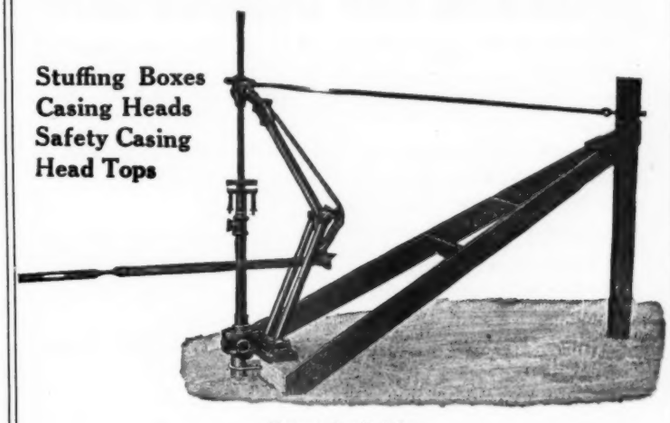

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Colombia Pipe Line To Cost $30,000,000 Not to Have Monopoly

Details of the agreement reported made by the Colombian Government with the Andian National Corp. to construct and operate a pipe line in Colombia, have been received from Bogota.

On October 2 the President of the Republic announced to the Legislature the conclusion of an agreement between the Government and James Flangan, representing the Andian National Corp. of Ottawa, Canada, for the construction of a public oil pipe line, 400 to 900 kilometers in length, along the Magdalena Basin to the Caribbean Sea. The cost of the work is estimated at $30,000,000.

Under the agreement the corporation also undertakes to pipe State-owned oil free of charge for a period of 18 hours per month. Oil otherwise owned is to be piped in strict rotation as applications are received, no preference whatever being accorded; a maximum tariff has been agreed upon, subject to revision every five years, but only with a view to reducing charges, not increasing them. No monopoly is granted to the corporation in laying pipe lines.

Plans and details of the work are to be submitted for official approval, and the corporation is under the obligation to furnish an annual report on the quantity of petroleum transported and any other data which may be requested. When production justifies the expenditure the corporation undertakes to lay the necessary connecting lines, or otherwise to connect any such lines which others may lay to convey their production to the main pipe line. The undertaking may not be transferred without the Government's assent, and never to a foreign government.

The Colombian Government regards the deal as highly important for the development of the country. Without a pipe line it would not be possible for Colombian oil to compete in the world's markets; and in view of the great outlay involved it would not be feasible for the treasury to finance such an undertaking.

It is pointed out that the conclusion of this important agreement indicates confidence in the existence of large deposits of petroleum throughout the Magdalena Basin, and that the Government, far from obstructing the work of those engaged in development, offers facilities and due security to foreign capital invested in the industry.

FRANCE TO GET POLISH OIL

The trade agreement on mineral oil between France and Poland, signed February 6, 1922, was ratified at Paris August 2, 1923, and promulgated September 4, 1923. Provision is made for the granting of permission to certain French enterprises, mutually approved by the contracting governments, to export from Poland, under favorable conditions, any excess of mineral oil over the quantity needed by the latter country for its internal consumption. This agreement will be effective for the same period as the political Franco-Polish accord of February 19, 1921, for which no definite term was fixed, but will be subject to revision after 10 years in order to take account of new conditions prevailing at the end of that time.

OIL SHOWING IN JAVA

At a meeting of the Anglo-Dutch Plantations of Java, Ltd., held in London, Charles Hedley Strutt, chairman, said: "I told you last year that we had received permits to prospect for oil over some 141,000 acres. We have also lodged applications for some further permits. There have been sufficient indications of oil to make it advisable to have a full geological survey of the area. We shall try to enter into an exploitation arrangement with the Government for working the oil if discovered in sufficient quantities."

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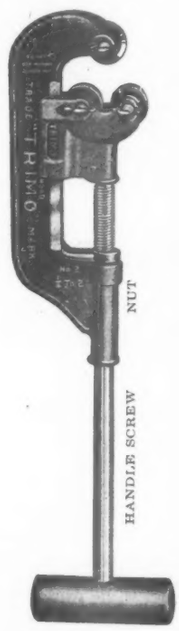

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Government Control Impractical for Oil, Congress Is Shown

Walter G. Willard, secretary of the American Oil Men's Association, writes that he has received the following letter which he thinks deserves wide circulation, particularly among Senators and Congressmen:

"Taking up the question of oil coming up under Government control, do not statistics show that for every barrel of crude oil pumped out of the ground the cost is more than the oil is sold for, taking the average through and through the dry holes and the producing wells, So with the mining of gold, that every ounce of gold mined through the long pull, with success and failure, the cost of production is more than the market price of gold. So with oil; if the Government tries to tamper with the production of oil, where is the incentive to the prospector, if there are not alluring profits in the industry with its hazards and risks. If there was not an incentive of big profits to one who tries to invent something and have it patented then there would be no inventions in this country. Certainly not for the glory of it.

"Some argue that under Government control the price of oil would become nonfluctuating. That can never be with the uncertainties of production. Either there will be a surplus of oil over consumption and the price falls, or there will be a shortage when the production of oil is not equal to the consumption and the price rises, and one has to let the price rise in order to stimulate the opening of new fields, otherwise one of these days the country will find itself without oil and stop the wheels of industry and throw millions of men out of work. Maybe that is what some radicals want so as to keep up their policy of unrest throughout the country. Some argue that the Government would allow a fair profit to the oil companies. That is not practical either, with the tremendous slumps in the oil industry. One has to receive big profits to offset the tremendous losses. The most successful oil company in the world could not prevent bankruptcy if its profits were limited along with terrific losses. We have to let our American farmer have a free hand for profit as an incentive to have him raise enough that we won't starve, so that he can plant as much as he wants and at his own risk.

"Some have been in favor of having the Government do the prospecting for oil, but who would pay for the dry holes—the American taxpayer?"

STANDARD MAY SHARE IN RUMANIAN PLANS

A Bucharest dispatch says: The Rumanian Government has decided to encourage the development of 60,000 acres of Government-owned oil lands by a private company, half Rumanian and half foreign. The latter half would furnish the necessary capital of about $20,000,000, which would be secured by a lien on whatever oil was produced.

The Government is said to be negotiating with a Franco-American group, which probably includes the Standard Oil Co., and also expects an offer from British interests.

It is understood that the Government might consider allowing a greater part of the oil produced to be exported, thus reversing its present policy in this respect.

TOKIO TO HAVE MOTOR BUSSES

Motor bus service will be inaugurated in Tokio to relieve the congestion caused by the destruction in the earthquake and fire of 830 street cars. The municipal council and assembly has passed a bill providing for the purchase of 1,000 motor busses at a cost of 1,850,000 yen. The cars are to be ordered from an automobile concern in the United States.

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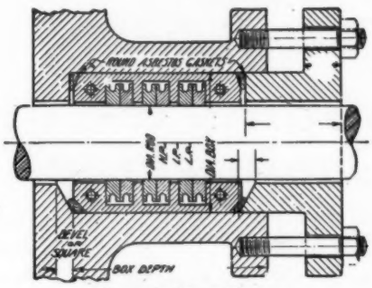

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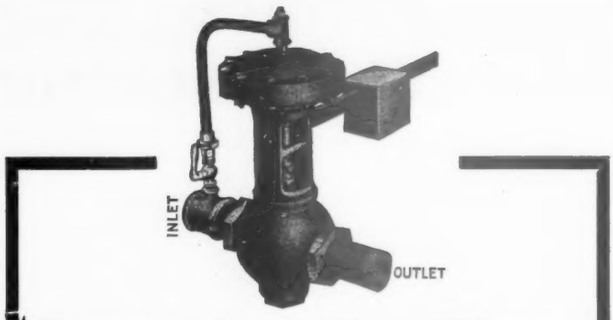

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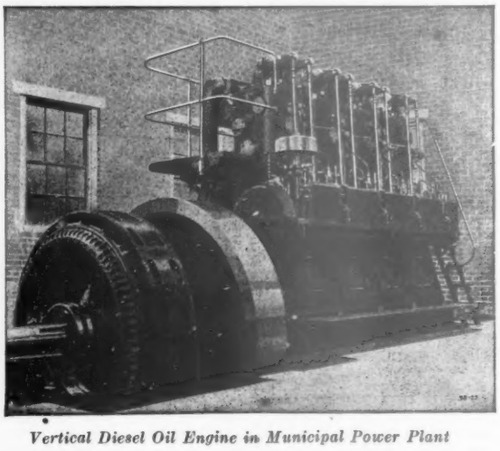

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S. O. Shares Listed On Stock Exchange Total Over Billion

NEW YORK, Nov. 10. — Up to the present there has been listed on the Stock Exchange a total of $1,033,019,297 of securities representing Standard Oil concerns. The listing of the stock of the Standard of New York and the Prairie Oil & Gas Co. would bring the total up to $1,312,822,697. This does not include the shares issued in payment of stock dividends declared by the Standard Oil companies in 1922. As a result of those stock dividends, there are now outstanding more than 100,000,000 shares of the numerous companies.

Upon approval of the listing of the stock of the New York and Prairie companies, the following Standard capital stocks outstanding will be represented upon the big board:

Standard Oil Co. of N. J. com..	$ 498,587,125
Standard Oil Co. of N. J. pf...	199,972,900
Atlantic Refining	50,000,000
Standard of California	204,787,272
Union Tank Car Co. com.....	18,000,000
Union Tank Car Co. pf.....	12,000,000
Tide Water Oil Co.	49,672,000
Standard Oil Co. of N. Y.....	225,000,000
Prairie Oil & Gas	54,803,400
Total	$1,312,822,697

In addition to the above there are 32 other Standard Oil organizations with stock outstanding approximating $1,158,000,000.

For many years the stocks of the Standard Oil companies were dealt in only over the counter, the market being made by specialists who devoted most of their attention to this group of securities. They were also traded in on the New York Curb market, but were never officially listed on the Curb. The stock of the old Standard Oil companies of New Jersey was also traded in on the Curb prior to the split-up in 1911.

The first break in the ranks was in 1920 when the Standard Oil Co. of New Jersey made a public offering of preferred stock, following which application was made to have the shares listed on the New York Stock Exchange. At the same time the outstanding common stock of this company also was listed on the big board. Since then the Atlantic Refining Co., Standard of California, Union Tank Car Co. and the Tide Water Oil, which is recognized as affiliated with the Standard Oil organization, have had their shares listed.

In the case of the Prairie Oil & Gas Co., it is expected that the company will split up its present capital stock of $54,803,000 of $100 a share par value into shares of $25 par value each, before application is made to have the stock listed.

The drift of Standard Oil stocks to the New York Stock Exchange for a market place indicates a change of policy in the past of the heads of these companies. According to Wall Street stories, John D. Rockefeller, Sr., when he was active in the management of Standard Oil interests, would not permit the shares to be traded in on any of the large exchanges, because such "listing" would have required furnishing to the exchanges statements of earnings and other data, which he did not desire to reveal to his competitors. For many years no statement of the earnings of Standard Oil was made public until long after it could have possibly had any market effect. Under the present regime practically all of the Standard Oil units now make regular semi-annual statements to stockholders and make public announcements of these figures, as do practically all of the so-called independents in the oil industry.

DEISEL CAR RUNS 10 YEARS

The first Deisel electric railroad car was put into operation in Sweden 10 years ago and is still working regularly. There are 20 units of this type up to 250 b.h.p. now in use there. Remarkable economies have been demonstrated by the Deisel electric cars adopted on branch lines in that country.

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Marketing of Oil Shows Contrast to Other Commodities

The oil business furnishes the outstanding exception to the recognized rule of "the bigger the buyer the lower the cost," says the current issue of "The Lamp." The contrast between the marketing of crude petroleum and most other commodities is well illustrated by current conditions.

There are something like 290,000 producing oil wells in the United States. Most of the owners have provided themselves with only temporary storage. When this tankage is filled, they notify a pipe line company which runs the oil at the posted price.

Sometimes the big buyers, the pipe line companies, cannot take all of the oil offered. The owner goes on producing just as though it were all in demand and he has to find a buyer for his surplus. To this end he sells below the posted price which he is receiving from his best customer. The local refiners who buy oil below current quotations can in turn sell finished products below the market. If the situation continues long enough the refiners supplied by the pipe line companies may find themselves unable to merchandise their products in competition with those that are made from the cut rate crude, with the result that the posted price is lowered.

The small producer or the local refiner, or the two together, have thus established the price of crude.

The same process in reverse may be witnessed in a rising market.

The refiner who is not taking oil from the pipe line finds it difficult to meet his requirements and bids a premium above the posted price. The pipe line purchaser finds he is losing the oil he needs and to get back his source of supply he raises the posted price to the premium offered by smaller competitors.

And agan the small producer or the local refiner, or both have fixed the price of crude oil.

KANSAS LEGISLATURE MAY TAX GASOLINE

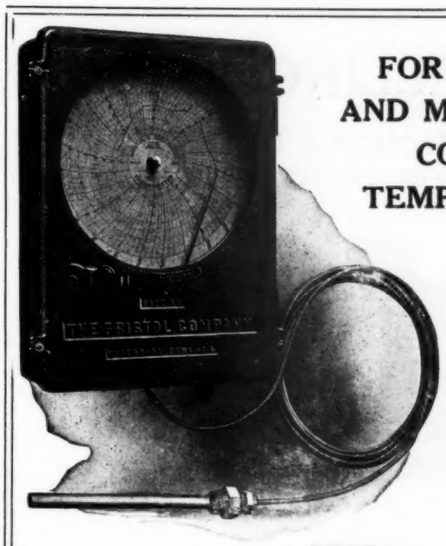
WICHITA, Kans., Nov. 19.—A gasoline tax which would go for State and County road work will be a law in Kansas after the next session of the legislature if the Sedgwick County commissioners have any influence.

Such a tax would enable the county, it is said, to make a marked reduction in other taxes because under the present system a considerable portion of the levy goes for purpose for which the gasoline tax would care.

From all sections of the State comes the word that the county commissioners generally favor the introduction of such a law at the 1924 session of tht legislature and the commissioners already have communicated with authorities in States where the tax is in force, asking methods of taxation, collection and distribution.

VENICE PETROLEUM PORT

Contract has been awarded for the construction of a large petroleum oil supply station in Venice for the subsidiary of an American Oil company, and work is being commenced on the erection of the reservoirs and various buildings. Storage facilities for almost 50,000 cubic meters of petroleum oils of various kinds will be available when this plant is completed, and the total area of this new supply station will be 100,000 square meters, including land, buildings, railway, tanks, docks, etc. This will be situated in the new port of Venice in what is known as the petroleum port. Practically all of the principal petroleum oils of commerce will be available at the station to vessels. The supply will include heavy combustible oil, naphtha, kerosene and gasoline.



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With a glance at Bristol's Thermometer, the operator can tell what temperature conditions are now, what they have been and in what direction they are pointing. It is unnecessary to stop and take readings as with an indicating instrument.

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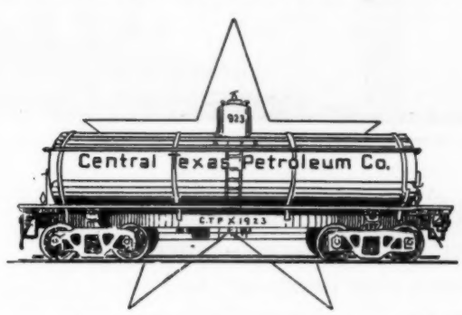

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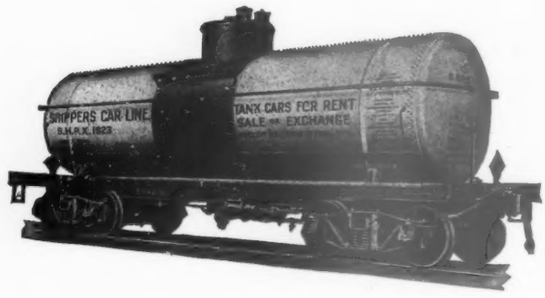

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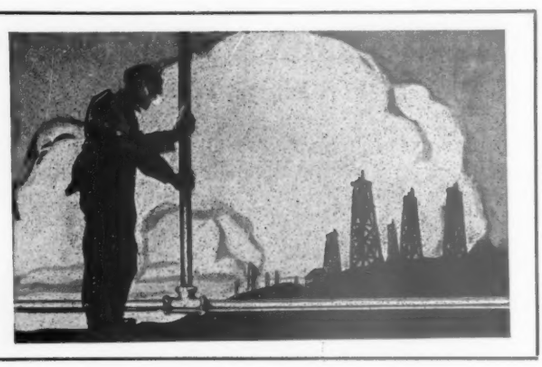

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REPORT OIL FIND IN PORTUGUESE AFRICA

After a lapse of nearly a year it is reported that the indications of petroleum at Innyaninga, near Baira, the discovery of which aroused some interest, is about to be seriously exploited. A company entitled the Innyaninga Petroleum, Ltd., is in course of formation. The company, which is to be registered in Salisbury, Rhodesia, and is to have a capital of £60,000, is acquiring the coal and oil prospecting rights over 42,000 miles of territory, held by the Manica Trading Co. The reported seepages lie on the Trans-Zambezia Railway, and are very accessible, if they prove to be what the reports indicate, Consul Cecil M. P. Cross, Lourenco Marques, states.

IN WESTERN AUSTRALIA

While considerable interest is being shown in the reported discovery of oil in the Kimberley district of the northwestern part of western Australia and four or five companies have been organized for exploitation purposes in this region, no actual deposits of petroleum so far have been found. In addition to these local companies it is supposed that the Anglo-Persian Oil Co. and the British Imperial Co., both of which have offices in Perth, western Australia, are watching closely the preliminary borings being done in the Kimberley region. Two of the new companies have rigs on the grounds of their leases and have been drilling for some time but without any practical results.

BENZOLIT NEWEST MOTOR FUEL

The patented German motor fuel, benzolit, has made its first appearance in the list of oil prices of English trade journals. The constituents are given as 50 per cent benzol, 20 per cent gas oil and 30 per cent alcohol. It is said to be the successor to a preparation known as tetralit, which was a mixture of benzol and tetralene (or tetralin). The latter is a water-white liquid derived from naphthalene. In practice it is mixed with an equal quantity of petrol or benzol and has given satisfactory results. A patent has been granted to the Tetralin G. m. b. H. for a process of hydrogenizing naphthalene with the aid of a catalyst to produce tetralin in a more expeditious manner.

W. N. DAVIS REELECTED

William N. Davis of Bartlesville, Okla., was reelected president of the Mid-Continent Oil & Gas Association at the annual meeting of all divisions of the organization in Tulsa.

Walter D. Pyron of Fort Worth, Tex., again was chosen first vice president, and Burt H. Collins of Tulsa, Okla., as second vice president, and Harry H. Smith was reelected secretary-treasurer.

The Kansas-Oklahoma division of the Mid-Continent association reelected H. R. Straight of Bartlesville, as president, and W. C. Franklin of Tulsa, vice president, and Harry H. Smith as secretary.

ANGLO PERSIAN IN CEYLON

The Anglo-Persian Oil Co. has built three new jetties in Colombo Harbor, one for the discharge of oil from tank ships and the other two for supplying vessels with oil. Two pumps have recently been installed, one capable of dealing with 175 tons of kerosene oil per hour and the other with 250 tons of fuel oil. A tank completed recently at Kalonnawa by the Anglo-Persian company has a capacity of 2,000,000 gallons.

CRUDE FOR GERMANY

California is credited with having sent a tank steamer cargo of crude to Germany for account of the Deutsche Erdoel A.-G. which has a considerable refining capacity. As California crude can now be got very cheap, the ocean freight is not prohibitive.

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We will advise him of your thoughtful remembrance.

The Oil and Gas Journal
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TRINIDAD EXPORTS DOUBLED

The exports of petroleum from Trinidad during the first eight months of this year are returned as 62,072,000 gallons, or nearly twice as much as in the corresponding period of 1922.

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Gasoline Rail Cars Are Being Developed For Special Traffic

Gasoline and gasoline-electric driven cars on rails, are referred to under a variety of names, e. g., self-propelled car, gasoline rail car, motor vehicle rail car, etc., etc. The term Railroad Motor Car is used to cover all of these various types of vehicles.

Railroad men generally have long recognized the need of an economical railroad motor car for light traffic on branch and short line operations. Various types have been under observation for more than a quarter of a century but it has only been within the past few years that a practical vehicle has appeared possible of attainment.

A review of the various models indicates three stages in the development, as reported by a special committee on motor transport of the Chamber of Commerce of the United States.

In 1897 the effort to adapt to railroad practice a steam car; followed by the use of compressed air and oil burning units. All of these were heavy cars with engines of small boiler capacity, small driving wheels but with uncomfortable riding qualities. Both initial and operating costs were so high as to result in a gradual abandonment of the cars after suitable trials by American railroads, although several cars of these various types were in successful operation on French and English lines in 1903.

In 1901 the Minister of Railroads of Austria ordered an "automobile car" operated by an oil burning engine. The unit proved quite satisfactory and in consequence both foreign and American motor manufacturers turned to gasoline engines, sometimes in combination with electric (gasoline-electric drive).

Many of these cars were gradually put into use by some of the railroads in this and foreign countries. A number are still in use. However, these units were not satisfactory, consequently their manufacture was discontinued.

Meanwhile motor truck manufacturers improved design by reducing weight per brake horse power, and increasing the efficiency of the engines.

The next development was to convert the motor truck into a railroad motor car by substituting flanged wheels for rubber tires. The possibility of economy through weight reduction led to the trial of a number of these units. Although comparatively economical, further experimental work was necessary in the endeavor to overcome bad riding qualities.

Present Development

This stage of development finds manufacturers engaged in an effort to combine locomotive and gasoline engine practice. Cars that carry baggage and passengers are already in service. Equipped with four-wheel trucks front and rear, these units are in many cases satisfactorily meeting railroad requirements and, at the same time, through following motor vehicle engineering practice, are making lower operating costs possible.

Thus far, the development in this country has been almost exclusively in the direction of handling light passenger traffic. There are experiments under way, however, leading to the accomplishment of moving light freight more efficiently and economically through the use of demountable bodies.

In France there has been developed what is known as a locotracteur, a gasoline engine capable of hauling light freight trains. One of these units has been in successful operation for 10 months and a leading French railroad has ordered six additional units.

Seven private Swedish railroads are now using cars with engines capable of developing from 75 to 180 horse power, with a dead weight of 16 tons and capacity of 58 passengers. Italy has five or six cars of same type. In both cases the equipment was manufactured in Germany, where it is reported decided advances have been made in this field.

Railroad Motor Car

Broadly speaking, the greatest field for this type of equipment is principally at points where it is necessary to provide frequent service for a small number of people. The service reaches its maximum economy where it entirely supplants the steam train, but it can and does perform a major service in the case of many light carrier lines by reducing operating losses to a minimum.

The places where the railroad motor car can be used to the best advantage are: Short line railroads, branch lines of main systems, local main line operations on railroads where through train service is not heavy enough to require full time steam train schedules.

The first function of this vehicle would be to establish a more frequent and cleaner service at an operating cost of from 25 to 50 per cent less to the railroad than the cost of steam service.

The American Short Line Railway Association has records showing that 170 motor cars are in use on 111 lines, of which 21 are trunk and the remainder short lines. These records also show that the approximate mileage now being covered by motor cars is 7,041, and that about 170 trains have been replaced.

According to the association, "while a great deal of money has been expended in experimental work, part of it misdirected, the actual investment in serviceable motor cars (on rails) today is probably not in excess of $2,500,000. The steam train investment necessary to provide the same service would probably approximate $8,000,000 to $10,000,000."

Freight Requirements

In general a survey of the use of existing facilities indicates that short line railroads have, in some cases, used railroad motor cars to entirely replace passenger steam service, while the large railroad systems have used the cars for what amounts to practically an interurban operation. Since the fullest measure of economy cannot be obtained until the railroad motor car can replace all steam equipment in this service, research work to this end is now being undertaken.

Development of these cars for the carriage of freight would have an even more marked effect on rail transportation costs, as it would not only eliminate the necessity for water, coal and roundhouse facilities now required, but would also lower the cost of maintenance of way charge.

Obstacles to overcome in this phase of the development of the equipment, are: First, that in order to obtain lower operating costs, lighter construction is necessary; and second, that legal train crew requirements, when using multiple units, prevent any great saving in labor costs, even though other operating costs are less than on steam equipment.

A summary of conclusions reached by steam and motor experts closely identified with the development of these vehicles indicates that while a wide variety of bodies will be needed, three types of chasses will generally meet most railroad requirements, which may be classified as follows:

Light or small type—Seating capacity 32 people. No baggage space. Engine capable of generating 35 horse power with maximum speed for short distances of about 45 miles per hour. In general this would be simply a converted motor truck with six wheels.

Medium type—Seating capacity 35 people; 6'x9' baggage space with bulkheads arranged for conveinent interchange as between passenger and baggage space. Engine capable of generating 50 horse power. This size may or may not require eight wheels arranged in two four-wheel trucks.

Heavy or large type—Seating capacity 50-70 people. Baggage and lavatory facilities, and bulkheads arranged for convenient shifting of space. Engine capable of generating at least 120 horse power. Running gear of two four-wheel trucks.

In some of the more recent developments of large units, engines have been employed generating horse power far in excess of the specifications mentioned and with a type of construction capable of pulling one or more trailers. Such units have just recently been installed on some railroads.

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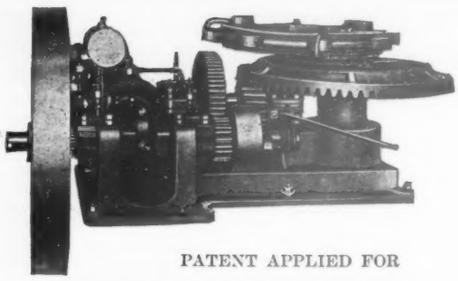

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Lifting Cost Data Offers Comparison On Producing Figure

By H. C. George
Petroleum Engineer, Bureau of Mines, Department of the Interior

Although lifting cost is only a part of the total cost of producing oil, it nevertheless gives a representative cost figure for purposes of comparison.

It is difficult to arrive at a general figure for the total cost of producing oil, because the factors involved are both varied and complex. In addition to production on operating cost, which includes the lifting or direct production cost, it is necessary to consider amortization of capital invested, rents and royalties, depletion of oil reserves and depreciation of physical equipment.

Classifying Expenses

Although there are many systems used for the classification of production or operating costs, the following is fairly representative of those in use:

1. General Expense: This item includes executive salaries, clerical expense, legal expense, general office expense, taxes, insurance, rent, compensation insurance, damages and welfare expense.

2. General Development Expense: This item includes the general expenses of the land and leasing, scouting, geological, chemical, research and engineering departments.

3. Lifting Expense: This item includes the cost of labor and materials for operation and maintenance of pumping or flowing oil wells, including the cost of operation and maintenance of all equipment directly required for the delivery of the oil from the wells to the stock tanks.

4. Treating Expense: This item includes the cost of maintaining and operating plants for steaming and dehydrating chilled and emulsified oil.

5. Development Expense: This item includes the amounts paid as bonus for leases, cost of drilling wells and securing new production.

6. Other Field Expense: This item includes miscellaneous cost of labor and materials for operation and maintenance of oil field camps, repairs to roads and operation and maintenance of other equipment in use at the operating property which are not included under any of the other headings.

Lifting and Operating Costs

The lifting and operating costs at oil well properties depend upon three groups of factors, namely: Conditions existing at the individual wells, conditions peculiar to individual properties and fields, and conditions depending upon the qualifications of the owners and operators.

Whether a well flows, whether it is pumped individually "on the beam," pumped as one of a group by a power of jack plant, operated by the air-lift system or by some other method, depends upon a number of factors such as the location of the well, quantity of oil, amount of gas pressure, fluid level in the well, gravity and character of the oil, amount of sand, water and emulsion produced with the oil and depth from which the oil is produced. The combined influence of many factors, rather than any one factor, determines what production method should be used.

Individual Properties

Conditions which influence operating costs and are peculiar to any property or oil field are: The depth and character of the producing sand, the amount and character of the oil present, the amount and pressure of the gas present, the volume and character of the water present, the character and quantity of fuel available for development and operating requirements, topographical conditions, number of wells in the area, quantity and quality of water for development and operating purposes, living and climatic conditions, quantity and quality of timber available for field use, transportation facilities, probable life of the

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CZECHO-SLOVAKIA OIL POLICY NOW PLANNED

Of late the Czecho-Slovakian Government decisions have shown an increasing tendency to put matters concerning the home supply of oil products systematically on a sound basis, says the London Petroleum Times. Something has given rise to a new Czech oil policy, which may be of interest to many foreign concerns.

An outline of the program, together with an explanation of the latest facts, follows: In considering the methods by which several countries try to secure the supply of oil products, we have to distinguish between (1) the working of the oil fields at home or abroad, either in dominions or foreign countries, (Great Britain, U. S.); (2) the forming of a reserve by authority of the Government, the closing contracts on long terms with oil concerns, and economical participation in the oil industry of friendly nations (France); (3) supplying the home demands by making oil products part of the chemical home industry, as the distillation of brown coal (Germany).

Czecho-Slovakia is bound to import several oil products, and the consequences of this are complicated by the fact that only rough products can be imported if the home refineries are to be preserved from ruin. As regards the working of the oil fields situated in Czecho-Slovakia, it is evident that the Government will never come to an efficient exploitation. Czech private enterprises lack the capital and experience required, so that the Czechs cannot do without a foreign oil concern, which together with the Government would have to establish a corporation to which concessions for each and every oil field should be granted. The oil policy will further have to consider the making sure and safeguarding the import. In this connection an import amelioration has been recently introduced. The surtax on oil products, which has hitherto amounted to cr. 0.70 per kilogram, has been reduced to an insignificant duty of cr. 0.07 for semimanufactured products, cr. 0.20 for kerosene and gasoline, cr. 0.40 for benzine and cr. 0.50 for lub oil—all per kilogram. The possibility of closing contracts with a large oil group has been repeatedly considered without resulting in a decision, owing to the monopolizing conditions to which the Czech Government cannot agree without more discussion.

AUTO OUTPUT STILL UP

Output of motor cars and trucks in October totaled 360,924, according to the National Automobile Chamber of Commerce, compared with 327,365 in September and 239,191 in October last year. In 10 months this year production was 3,388,785, compared with 2,119,111 in the same period of 1922. Ford production last month was 185,924, or more than all other factories made. New high record production was made for the month by Ford, General Motors and Willys-Overland.

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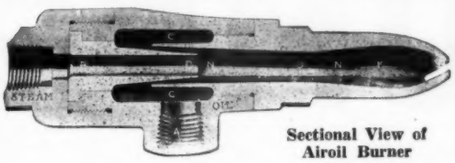

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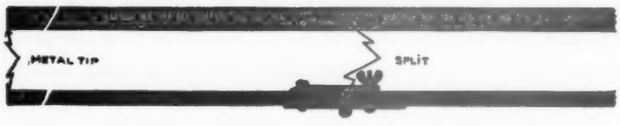

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ENGLAND YET HOPES TO GET OIL AT HOME

Some petroleum technologists consider the only chance of obtaining oil in this country, says the London Petroleum Times, will be from the carboniferous formations. An account of the geological features and speculations relating to the probability of finding free oil in the northeastern area may be interesting. Taking the first facts concerning the oil found in Derbyshire, as is known, oil was struck at Hardstoft in 1919, when drilling from the surface coal measures to the carboniferous limestone. The oil horizon lay in the lower millstone grits, in the shales of Yardale series at top of the limestone. From this zone oil rose in the bore over 3,000 feet to the surface and is still flowing. Shows of oil from the same horizons were made in the bores at Heath, Ironville, No. 1 and 2. The recent action of the Duke of Devonshire, who owns the mineral rights, speaks volumes as he has recently acquired a license from the Government to exploit that area for oil. It is reported that when the Hardstoft bore is cleaned, an dtwo or three fresh wells put down in its vicinity, the business world will be astonished at the results.

GERMAN AUTO INDUSTRY

The German automobile industry at present is turning out 300 cars a month. In October production had been cut owing to unsettled financial conditions and high production costs. There are 99 German automobile works employing 10,000 men. The average output before the war a man was one chassis a year. Owing to reduced efficiency this has fallen to one-half a chassis. The number of passenger cars and motor trucks in operation this year is 160,000 compared with 126,000 last, and 70,600 in 1914. The uses of trucks and busses has spread as a result of abruptly rising railroad rates since August. The Government maintains a postcoach service throughout Germany and municipalities and factories operate bus lines.

GUESSING AT OIL RESOURCES

In "Problems of the Petroleum Industry," a lecture by M. Gault, at a conference of the Societe Industrielle du Rhin, M. Gault estimates the world's resources as follows:

U. S. and Alaska	7,000,000,000
Russia and Siberia	5,836,000,000
Persia and Mesopotamia	5,820,000,000
South America and Peru	5,730,000,000
Mexico	4,525,000,000
Central America	3,550,000,000
East Indies	3,015,000,000
China	1,375,000,000
Japan and Formosa	1,235,000,000
Rumania, Galica, E. Europe	1,135,000,000
India	995,000,000
Algeria and Egypt	925 000,000
Canada	95,000,000

This quantity would maintain the 1921 production for about 70 years, but the resources may prove to be greater than imagined through possible discoveries in regions not yet explored.

CASING FOR SHIPROCK

FARMINGTON, N. M., Nov. 17.—The casing for the Shiprock Oil Co. well 2 miles east of Farmington has arrived and has been started out to the well on big trucks. Two loads were taken over the Animas bridge before it broke down and the remainder is being taken across by wagon. The casing is already partly run, and will be put in position as quickly as possible and drilling resumed. It is stated the intention of the Sandburg company was to push the drilling.

SURFACE MARKS OF OIL

"Surface Marks of Oil Deposits" is the title of an interesting booklet by P. H. Pearson, published by him at Washington, D. C. It is not intended to be a scientific publication, but for the use of land owners, prospectors and leaseholders. Acknowledgments are made to Prof. Emil O. Deere and the staff of the United States Geological Survey for assistance in the work.

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GENERAL SITUATION MUCH BETTER—GRAY

Oil production has passed its crest and the general oil situation is looking decidedly better according to W. H. Gray, president of the National Association of Independent Oil Producers. Mr. Gray, in a letter to The Oil and Gas Journal, from Hot Springs, Ark., where he has been spending a vacation, commenting on the present oil situation, says in part:

"No other period in the oil industry has pointed so clearly as this one to the inevitable conclusion that crude price structure will control the price of refined products, and refined products cannot be made to stand up unless crude prices can be lifted.

"Those misguided producers who along last spring and early summer were growling and complaining that the large buying agencies should cut their prices to a point where all of the oil would be taken, are now aware of what sort of a price that would have been, and also they are now aware of the destruction that would have been wrought through the industry had the price at that time been cut to the present levels.

"I am speaking of the prices quoted by the Prairie yesterday, which, of course, will be followed by all other buying agencies. I hardly expect these prices to last very long. They are entirely too low. Upon such market, everyone will be buyers and there will be no sellers. So far as the general situation is concerned in regard to production, we seem to have passed the crest of it, as things are looking decidedly better."

Classified Advertisements
Pages 102-103

WANT GASOLINE FROM WELLS

At a meeting of the Farmington Civic Club, as reported in the New Mexico State Record, a resolution was adopted protesting against the action of the Midwest Refining Co. in stopping the sale of crude oil from its Hogback wells, both because of the loss of royalty to the Navajo Indians, and because San Juan Basin residents resent the injustice of paying 30 cents per gallon for gasoline shipped in from Wyoming, when Hogback Crude can be used to a better advantage for the same purpose. Copies of the resolution were sent to the Aztec Chamber of Commerce and the Durango Exchange, with the request that similar action be taken by those bodies. It is understood Commissioner to the Navajos H. J. Hagerman will be in Farmington shortly and the matter will be presented to him. At the time the sale of Hogback crude was stopped it was being sold at the rate of 100 barrels a week, with the demand constantly increasing. The sale price at the well being $2 per barrel, this would amount to over $10,000 a year, without any expense of refinery, or pipe line.

RAILROAD SAVES BY OIL FUEL

Presiding at the annual general meeting of the Central Uruguay Railway Co. of Monte Video, Ltd., Frank Henderson said: "A pleasing feature of the year's results was the economy effected in working expenses, cheaper fuel accounting for £33,800 of this. They had continued the conversion of their locomotives for the consumption of fuel oil, and experience showed that on the Central Uruguay system one ton of oil was equal to 1.45 tons of coal."

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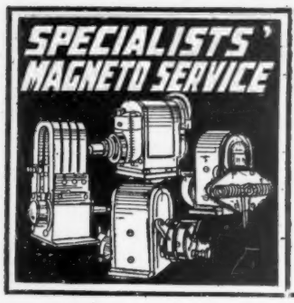

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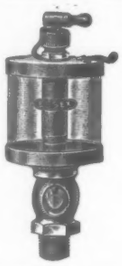

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British Oil Imports Larger but Cheaper Shown by Analysis

British imports of petroleum products for the first nine months of 1923 amount to just over 1,000,000,000 gallons. This is at an annual rate of approximately 1,333,000,000 gallons, as against the nine months' total for last year of about 934,500,000 gallons, an annual rate of about 1,248,000,000 gallons. The comparative figures of the two years, the London Oil News says, show that all products have not increased equally—in fact, that certain of them have not increased at all.

Crude oil, by reason of the much larger imports at Swansea, has made the most remarkable stride the nine months' total being rather less than 247,000,000 gallons, against rather more than 153,000,000 gallons for the first nine months of 1922. Crudt is not the largest item. Motor spirit at 249,250,000 gallons compares with under 247,000,000 for the first three quarters of 1922; and fuel oil is larger this year than either of the two quantities just mentioned. Its 1923 figure, 275,340,000 gallons, compares with 321,500,000 gallons for January to September, 1922. In this, the principal commodity as regards quantity, the present year thus shows a very considerable drop. In lamp oil a smaller decline is apparent, this year's nine months' total being rather less than 101,400,089 gallons, against the corresponding 1922 figures of less than 108,000,000.

Lubricating oils and gas oil both show a moderate increase, and spirit other than motor spirit, of which in the nine months of 1922 only 2,200 gallons was imported, is this year represented by 2,320,000 gallons. For the month of September itself the total of 99,000,000 gallons for all commodities stands against 71,335,000 gallons for the similar period of 1922. The most remarkable point about the monthly figures is that the greater part of this increase is due to crude, which registered nearly 36,000,000 gallons, against under 14,000,300 gallons for 1922.

In spite of the increase in volume imported which marks the first three quarters of 1923, the actual value of this year's imports is over £3,000,000 less than in 1922. The first nine months of 1923 give the value of the commodities a total of about £27,334,000. In the corresponding period of 1922 the value was over £30,900,000. Motor spirit, which showed an increase in volume, drops in value from £16,658,000 in the first nine months of 1922 to £12,817,000 for the similar period this year. And the tendency towards lower values generally is exemplified in the monthly figures for September, for in spite of the considerable increase in volume the total value has only increased from £2,206,000 to £2,216,000. The year so far may be summed up in the statement that England is importing larger quantities than in 1922, but at lower unit values and lower actual values.

PETROLEUM IN MADAGASCAR

A mission has recently arrived in Madagascar, from France, consisting of three scientists. This mission, in company with the chief of the Madagascar service of mines and four other Europeans and a number of native employes, has recently proceeded to the reputed petroleum grounds. It is estimated that this expedition will remain in the colony about three months. It is reported that the colony of Madagascar and dependencies had pegged large areas of the reputed petroleum-bearing ground on the west coast of the island and that these would be placed on sale in three lots of 600,000 hectares each early in 1923. It would appear that these lots have not yet been placed in adjudication, and it is generally believed that no action will be taken in this particular until the present mission has been able to make its report on the petroleum deposits throughout the island.

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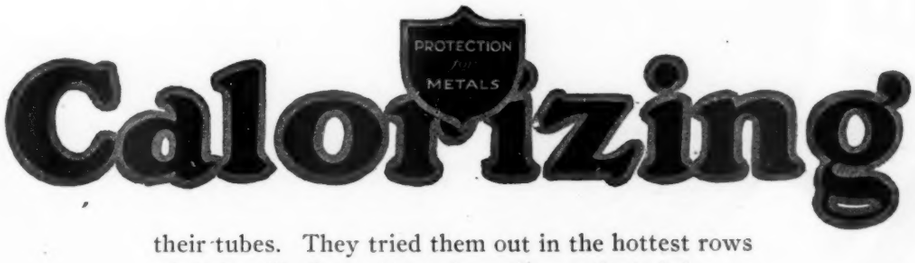

their tubes. They tried them out in the hottest rows of their stills first. Even there they outlasted the unprotected steel tubes in cooler, safer places. What followed? Orders to Calorize throughout and annual contracts covering monthly Calorized tube requirements for the year—requirements far less than before.

To Economize, Calorize

Get the evidence. Make the test. Calorize throughout. Contract by the year.

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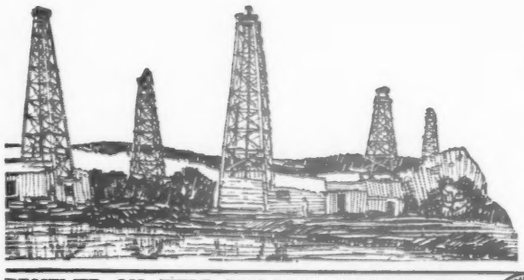

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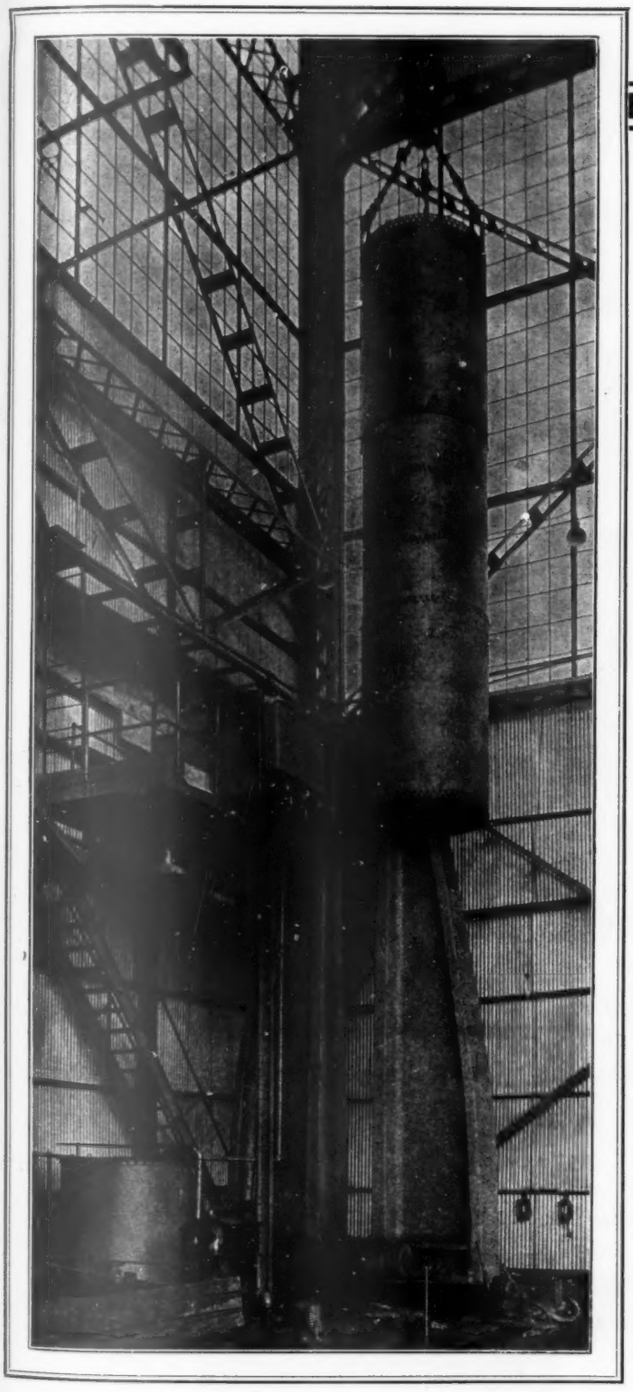

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The massive hydraulic riveter shown in the accompanying photograph is but one of the many modern machines found in the KAW plant. Here is the secret of the tighter, more substantial construction of KAW High Pressure Stills. This giant of production seals together the steel sections in such a way that the rivets become a part of the very steel itself!

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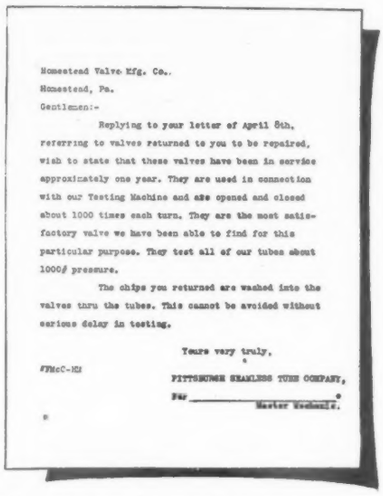
Experience No. 12



Homestead Valve Mfg. Co.,
Homestead, Pa.
Gentlemen:-

Replying to your letter of April 8th, referring to valves returned to you to be repaired, wish to state that these valves have been in service approximately one year. They are used in connection with our Testing Machine and are opened and closed about 1000 times each turn. They are the most satisfactory valve we have been able to find for this particular purpose. They test all of our tubes about 1000# pressure.

The chips you returned are washed into the valves thru the tubes. This cannot be avoided without serious delay in testing.

Yours very truly,

FTMcC-MS

PITTSBURGH SEAMLESS TUBE COMPANY,

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Master Mechanic.

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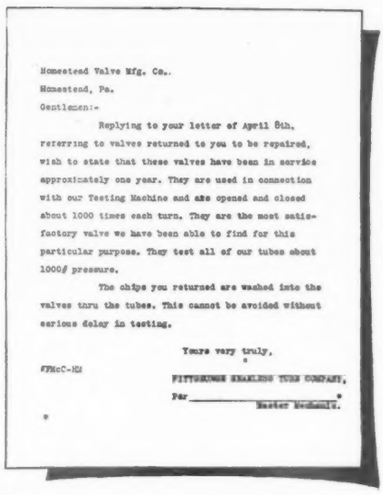

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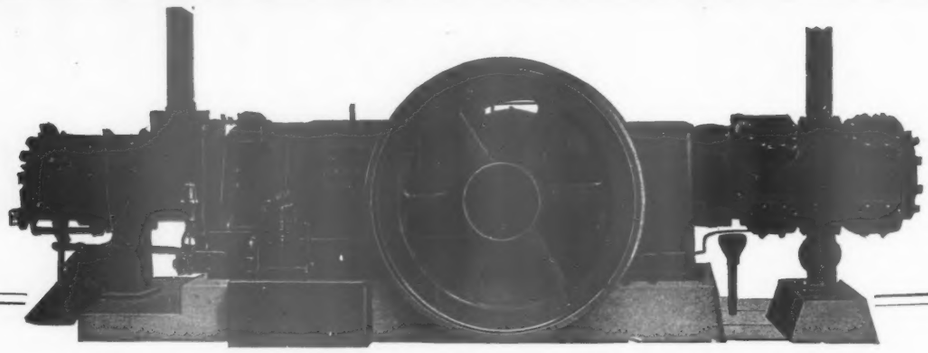

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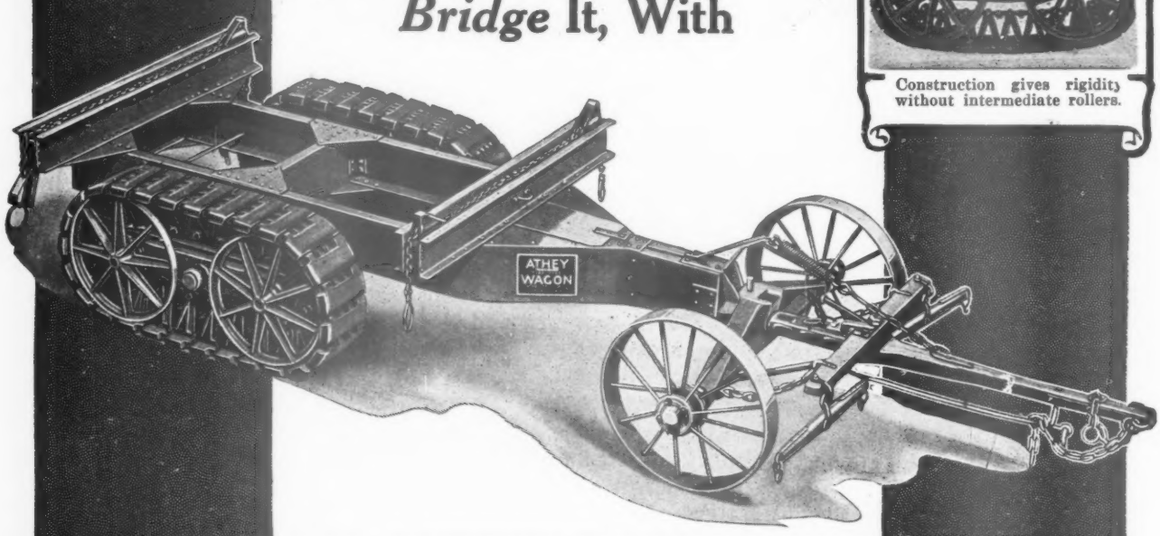

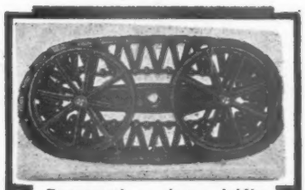

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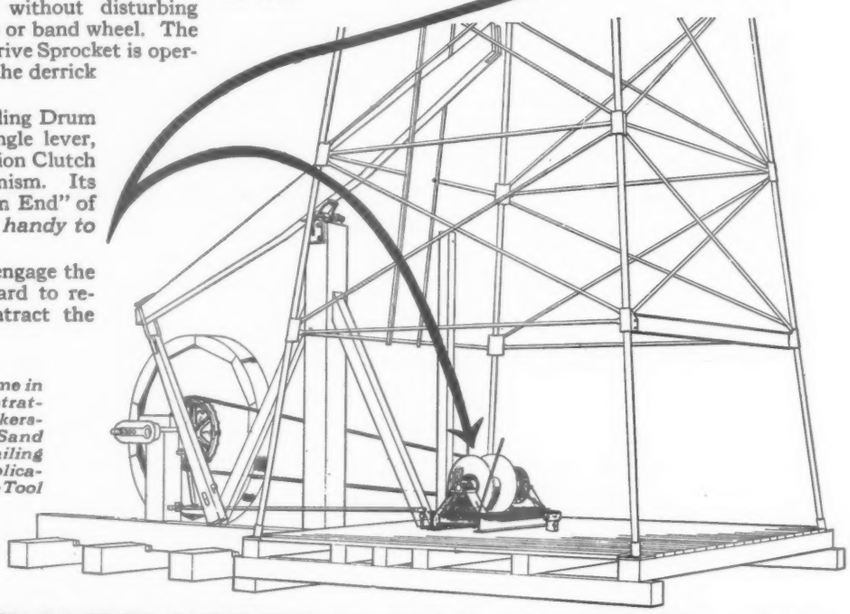

"Cut Your Bailing Time in Half" is a booklet illustrating and describing Parkersburg Chain Driven Sand Reels and Portable Bailing Machines, and their application to Rotary and Cable Tool Drilling Rigs.

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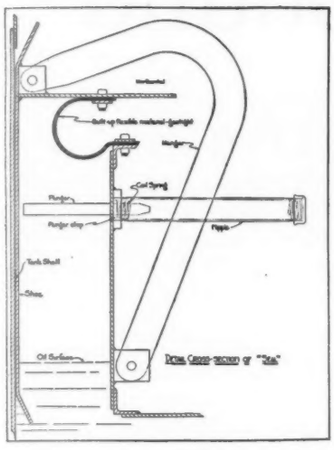
Questions and Answers
on the Wiggins Floating Roof



What are the essential parts of the roof?

The float, which is the flat portion resting on the water and possessing a rim around the edge, the seal, which seals the gap between the float and the shell of the tank; and the rain control and rain drainage systems.

What is the space between rim of float and tank shell? Is this space exposed to the air?

Six inches. It is not exposed to the air but is closed by the seal.

How is the space between the rim of float and shell of tank sealed?

This seal is a very ingenious device. A vertical plate, called the shoe, fits against the tank shell. It is supported by a hanger pivoted on the float rim. The space between shoe and float rim is closed by a plate and asbestos connection. This device reduces the space open to the air to almost nothing.

Is the shoe close enough to the shell to prevent free evaporation?

The shoe fits tightly against the tank shell. Practically the only space is at the vertical seams where the rivet heads make a slight air space.

Is this slight air space of any consequence?

No. Even assuming it to be wider than it really is, the exposed area is almost negligible. If the gap were as much as ½ inch, the total exposed area would be only 15 square feet. The exposed area in a 55,000-barrel tank is more than 10,000 square feet.

What keeps the shoe tight against the tank shell?

Around the rim of the float are plungers, actuated by springs, which press the shoe tightly against the tank shell.

Request Slip

Chicago Bridge and Iron Works,
2128 Transportation Building,
Chicago.

Gentlemen: When your bulletin on the Wiggins Floating Roof is ready, please send me a copy.

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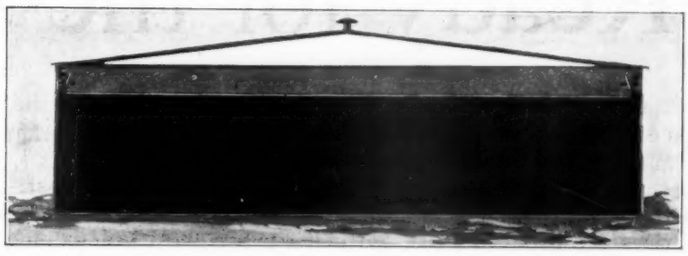
Remove the Air Space and You Stop Evaporation



The Wiggins Floating Roof Stops Evaporation

You **can** stop evaporation in your tanks. Until now this has never been practicable; but the development of the Wiggins Floating Roof has made available to you and other oil men a means of stopping evaporation which is efficient, serviceable and wholly practical.

What happens when gasoline or crude is exposed in an open tank? Minute particles of the lighter fractions pass off of the surface in the form of vapor. This occurs also in an ordinary tank because there is an air space between liquid and roof. Naturally, when this air is forced out of the tank by breathing or filling, the vapor is taken with it and lost.

The way to prevent much evaporation is to blanket the surface of the liquid. The Wiggins Floating Roof is a practicable means of so doing. It will prevent vaporization. It will save the millions of dollars worth of the best gasoline otherwise lost. It will raise the gravity of the refined product.

Evaporation is not the product of fanciful ideas. It is a fact that the oil industry must face, no matter how painful it is. The U. S. Bureau of Mines says that 7½% of the total crude production is lost by the time the gasoline is shipped from the refinery. This means that 45,000,000 barrels of the cream of the gasoline will be lost out of the 600,000,000 of barrels of crude produced this year. This waste will cost the industry around $200,000,000—truly a staggering sum. Add to this a fire loss of $20,000,000 and you see the total waste which the Wiggins Floating Roof will reduce.

Just one working tank alone will waste a most astounding total volume of gasoline in a year. A 55,000-barrel tank handling 10,000 barrels of crude a day will waste $10,000 worth of gasoline in a year. If it handles gasoline instead of crude the loss woud be doubled. These figures are based on ten-cent gasoline and are therefore low. Just how this and other astounding conclusions are reached will be explained in a bulletin now under preparation.

You may receive your copy by sending us—or having your secretary send us—the adjoining request slip.

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Ready for the Rebound

Oil men are beginning to smile again. The consensus of opinion is that the bottom of the depression caused by the phenomenal production of 1923 has been struck and that the rebound is due.

Prices are believed to be at their lowest and the next change will be upward, the beginning of a period of prosperity such as the industry has never seen.

Production is falling while there is no visible limit to the gain in consumption, as the world's uses for oil expand.

In the two weeks ending November 3 and 10 the production of the United States dropped 96,000 barrels a day.

The Powell Field, admittedly the one factor that is checking a vastly greater drop, was opened wide November 13, and produced 354,893 barrels. On Tuesday, November 20, despite 31 wells being completed within the week the production of the field had declined to 280,000 barrels, a drop of 74,000 barrels daily within eight days.

In August last when there was surplus of production over consumption of 3,000,000 barrels going into stocks the Powell Field alone was producing that much. In October it accounted for half the total production in Texas. It has contributed about 24,000,000 barrels to the glut of oil since the first gusher was struck on May 31.

California reached its peak in the week of July 14, since which the Santa Fe Springs Field has dropped 108,000 barrels. As California declined Powell rose to take its place, but it is already vanishing and much more swiftly than the Pacific Coast fields. Salt water is appearing in increasing quantities and places, hastening the disappearance of this field as a menacing factor.

Salt Creek's second test shows that the Wyoming Field has been greatly overestimated. It is not doing nearly as much as when given the first 100 per cent test last summer. With its removal there is not a visible field where new gusher pools can be expected.

Reports tell of plans for new wildcatting campaigns, now that "the worst is known," and the only difference of opinion is a matter of days. No one questions the return of prosperous days to the oil industry. It is recognized to be as certain as the sunrise.

We have taken the measure of the peril from California. We have seen the Powell Field, wide open, challenged to do its utmost. We know, through demonstration, how quickly wells in that pool decline from their initial production. Its limits are determined.

There is not a single threat of new over production anywhere. With Powell out of the way, no longer making good the decline in California, the drop will be accelerated. It is only a matter of time until stocks are being drawn upon and then the problem will be to maintain them equal to the constantly increasing consumption.

Facts like these are familiar to readers of The Oil and Gas Journal. They are prepared for the rebound. They know exactly where the industry stands from week to week and profit by that knowledge in their daily business. If you are not already a regular reader why not insure your keeping posted by filling out the attached subscription coupon NOW.

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